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**QUARTERLY GROUNDWATER
MONITORING REPORT
FOURTH QUARTER 2001
MISSOURI ELECTRIC WORKS (MEW) SITE E
CAPEGI RARDEAU, MISSOURI**

PREPARED FOR:

MEW Site Trust Fund Donors

C/O American Services
1901 Chouteau Avenue
PO Box 61149, MC 602
St. Louis, Missouri 63166-6149



PREPARED BY:

KOMEX

5500 Bolsa Avenue, Suite 105
Huntington Beach, CA 92649-1102

219648

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TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	SITE DESCRIPTION AND HISTORY	2
3	DATALOGGER DOWNLOAD.....	4
4	RAINFALL MONITORING.....	5
5	MONITORING WELL GAUGING AND SAMPLING	6
5.1	CHEMICAL ANALYSIS	6
5.2	TRITIUM OVERVIEW AND ANALYSIS.....	7
5.3	STABLE ISOTOPE OXYGEN $\delta^{18}\text{O}$ AND HYDROGEN δD ANALYSIS	7
6	DISCUSSION OF MONITORING RESULTS.....	9
6.1	GROUNDWATER ELEVATION AND FLOW CONDITIONS.....	9
6.2	INORGANIC ANALYTICAL RESULTS	9
6.3	BIOLOGICAL ANALYTICAL RESULTS.....	10
6.4	ISOTOPE ANALYTICAL RESULTS	10
6.4.1	Tritium Analysis.....	10
6.4.2	Stable isotope oxygen $\delta^{18}\text{O}$ and hydrogen δD analysis	10
6.5	ORGANIC ANALYTICAL RESULTS	11
7	DATA QUALITY ASSESSMENT.....	13
8	CLOSURE/LIMITATIONS.....	14
9	REFERENCES	15

LIST OF TABLES

- 1 Groundwater Well Construction Details
- 2 Groundwater Elevation Data
- 3 Groundwater Analytical Results – Inorganic Compounds
- 4 Groundwater Analytical Results – Biological Analyses
- 5 Groundwater Analytical Results – Organic Compounds
- 6 Groundwater Analytical Results – Isotopic Analyses
- 7 Groundwater Analytical Results – QA/QC Results

LIST OF FIGURES

- 1 Site Location Map
- 2 Site Plan
- 3 Hydrographs
- 4 Groundwater Potentiometric Surface Contour Map – October 22nd, 2001
- 5 Piper Diagram
- 6 Stiff Diagrams
- 7 Organic Compound Concentrations in Groundwater – October 2001
- 8 Tritium Conc., δD and $\delta^{18}O$ Values in Groundwater – October 2001
- 9 δD and $\delta^{18}O$ Groundwater Values in Relation to the World Meteoric Water Line

LIST OF APPENDICES

- A Gauging and Sampling Field Forms**
- B Laboratory Analytical Results**
- C Organic Compound Analytical Results – 1989, 1990 and 1991 Investigations**

1 INTRODUCTION

On behalf of the Missouri Electric Works (MEW) Site Trust Fund Donors, Komex is pleased to submit the enclosed Groundwater Monitoring Report – Fourth Quarter 2001 for the MEW Site (referred to hereafter as “the Site”) located at 824 South Kingshighway, Cape Girardeau, Missouri (Figure 1). This report summarizes the activities associated with groundwater gauging and sampling conducted during the Fourth Quarter of 2001 during the 21st to 25th of October. The work was performed in accordance with the Work Plan (Komex 2001b), the project specific Sampling and Analyses Plan (SAP) (Komex 2001c), the Quality Assurance Project Plan (QAPP) (Komex, 2001d), and the site specific Health and Safety Plan (HaSP) (Komex 2001e). Second Quarter groundwater monitoring was performed in April (Komex 2001f) and the third Quarter monitoring in July (Komex 2001g).

Prior to work performed in 2000 (Komex 2001a), groundwater monitoring was last performed in 1991 (EarthTech 1991). A more continuous data set is needed to characterize hydrogeologic conditions. Since a large volume of contaminated soil was treated, it is expected that concentrations of chemicals of concern (COCs) in groundwater beneath the Site will decrease over time and additional groundwater monitoring data will provide the opportunity to discern trends in groundwater quality.

The quarterly groundwater monitoring is intended to establish a groundwater quality baseline representative of current groundwater flow conditions. Planned environmental investigations, including drilling into the bedrock and conducting aquifer testing, could disturb the current hydrogeological regime and potentially remobilize COCs. In addition, groundwater elevation collected using transducers and data loggers will be used to evaluate hydraulic parameters.

2 SITED ESCRIPTION ANDHI STORY

The MEW property is located on a 6.4-acre (2.6 hectare [ha]) tract of land that is adjacent to Missouri State Highway 61 in a commercial area of Cape Girardeau, Missouri (Figure 1) and is located 1.5 miles (2.4 kilometer [km]) west of the Mississippi River, above the river's flood plain. Runoff channels are located near the northern, southern and eastern boundaries of the property, and eventually drain into the Cape LaCroix Creek, approximately 0.7 miles (1.1 km) east of the property. The creek drains into the Mississippi River. The property is bounded to the north and east by retail and office properties, and to the south by retail properties.

MEW has been at the present location since 1953. Until 1992, MEW sold, serviced and remanufactured transformers, electric motors and electrical equipment controls. Currently, the property is mostly grass field with a single concrete building at the northwest corner, used by the owner to park vehicles. During past operations, MEW recycled materials from old equipment, and recovered copper wire and dielectric fluid from transformers. The salvaged transformer oil was filtered through Fuller's Earth for reuse. Approximately 90 percent of the oil was recycled and approximately 16,000 transformers were repaired or scrapped at the property until it closed. The total volume of transformer oil that was not recycled during this period has been estimated at 28,000 gallons (105,992 liters).

The Site comprises areas on and off the MEW property that were impacted by polychlorinated biphenyls (PCBs) in soil above the action limit of 10 parts per million (ppm) to a depth of 4 feet (1.2 meters [m]) below ground surface (bgs), and above 100 ppm at depths greater than 4 feet (1.2 m) bgs. The total surface area of the Site is approximately 6.8 acres (2.8 ha). PCBs were identified and removed from soils at the MEW property from the surface to approximately than 27 feet (8.2 m) bgs. In addition to PCBs, low concentrations of volatile organic compounds (VOCs), including methylene chloride, chlorobenzene and 1,1,1-trichloroethane (1,1,1-TCA), were detected in soil at the Site. Treatment of PCB-impacted soil by thermal desorption at the Site was performed in July 2000.

Groundwater investigations have previously been conducted at the Site, including two investigations in 1989 and 1990 by The Earth Technology Company (Earth Tech) of Houston, Texas. There are currently ten ground water monitoring wells and one water supply well (not in use) at the Site (Figure 2, Table 1). In 1999, 12 monitoring wells existed at the Site. Two wells less than 30 feet (9 m) deep intersected little (Well MW-6) or no groundwater (Well MW-B). Eight wells, constructed less than 65 feet (20 m) deep, were

installed in the first significant groundwater zone encountered at the site. One well (Well MW-11) was installed to a depth of 120 feet (36.6 m) and one well (Well MW-11A) was installed to a depth of 405 feet (123 m). On September 30, 2000, two wells (Wells MW-B and MW-8) were abandoned. Well MW-B was abandoned because it did not intersect groundwater and Well MW-8 was abandoned due to a damaged wellhead. Wells MW-A and MW-C had already been abandoned, but the dates of abandonment are undocumented. There is also a groundwater supply well, with a depth of approximately 150 feet (137 m), located near the southeast corner of the building. The well was used to supply water for the Site and was capped with a concrete pad in the early 1990s.

A recent geologic and hydrogeologic investigation was performed by Komex (2001a) at and in the vicinity of the Site. The following tasks were conducted as part of the investigation:

- Site reconnaissance and field mapping;
- Fractured rock lineament study;
- Groundwater monitoring and sampling;
- Sediment sampling from groundwater wells;
- Laboratory analyses of groundwater and sediment samples;
- Initial fracture modeling; and
- Initial conceptual model development.

3 DATALOGG ERDO WNLOAD

On April 26, 2001, MINITroll transducers with built-in data loggers and Teflon coated cables were installed in three wells at the Site: one shallow well (Well MW-3), one intermediate well (Well MW-11), and one deep well (Well MW-11A) to monitor groundwater elevations. The instruction manual for the operation of the transducers and data loggers are provided in the SAP (Komex 2001c). The groundwater elevation data were downloaded on October 21, 2001 and will be downloaded again during the First Quarter groundwater monitoring event in January 2001. Depth to groundwater was measured by hand to confirm the data measured by the transducer.

4 RAINFALLMONITORING

A hydrograph method for evaluating the bulk storativity and transmissivity of the aquifer will be performed. This method will eliminate the need for conducting a pumping test to characterize these parameters. A tipping bucket rain gauge with a built-in data logger (Onset Data Logging Rain Gauge Model No. RG1 Serial No. 341320) was installed on the crane superstructure attached to the Site building to obtain accurate Site precipitation data (relocated to Well MW-6A for easier accessibility in July 2001). The data set was successfully downloaded on October 21st 2001, and will be interpreted after downloading additional data during First Quarter sampling in January 2002. In addition, precipitation data from the Cape Girardeau airport, located approximately one mile (1.6 km) from the Site, will be obtained for comparison.

5 MONITORING WELL GAUGING AND SAMPLING

On July 24, 2001, the groundwater monitoring wells at the Site (Figure 2) were gauged for depth to groundwater using a hand operated electric water level tape. Monitoring well construction details are presented in Table 1 and groundwater elevation data are presented in Table 2. Hydrographs for each of the wells are shown on Figure 3 and the groundwater surface potentiometric contour map for the Third Quarter of 2001 is presented on Figure 4.

On October 23, 24 and 25, 2001, all the wells at the Site were purged and sampled, with the exception of Well MW-6, which did not contain sufficient water.

Prior to groundwater sampling, the wells were purged of groundwater using a submersible pump or bailer, or both, until (1) the hydro-geochemical parameters (pH, temperature, electrical conductivity, turbidity and dissolved oxygen) had stabilized to within 10 percent of the previous sample parameter reading, (2) a minimum of three casing volumes had been removed, or (3) until dry. The wells were then allowed to recover to 80 percent of the pre-purged volume, or for approximately two hours in the event of slow recovery. Well gauging and sampling field forms are included in Appendix A.

5.1 CHEMICAL ANALYSIS

Groundwater samples were collected using disposable polypropylene bailers or a stainless steel bailer (Well MW-11A) or using a submersible pump (Well WSW-1). For this sampling episode, data quality was evaluated by collecting and analyzing a duplicate sample (collected from Well MW-4), one equipment blank, one field blank, and one trip blank. The groundwater and QA/QC samples were transported to Analytical Environmental Services (AES) of Atlanta, for the following analyses:

- VOCs in accordance with United States Environmental Protection Agency (USEPA) Method 8260B;
- Semi-volatile organic compounds (SVOCs) in accordance with USEPA Method 8270B; and
- PCBs in accordance with USEPA Method 8082 (except for field and trip blank samples).

Duplicate PCB samples and one spare sample were collected, enabling the filtering and subsequently analysis of a duplicate sample when PCB was detected in the initial sample

5.2 TRITIUM OVERVIEW AND ANALYSIS

Tritium is introduced to the hydrologic cycle by both natural and anthropogenic sources. Large quantities of tritium have been introduced to the atmosphere as a consequence of nuclear weapon testing in the early 1950's, with peak concentrations detected in precipitation during the mid 1960's. Since this period, due to a decrease in atmospheric nuclear weapons testing and subsequent precipitation, the tritium concentrations in the atmosphere have decreased significantly. The concentration of tritium in precipitation may also be affected by (Mayo 1991):

- Hemispherical and latitudinal affects;
- Continental vs. Oceanic affects; and
- Seasonal effects.

Tritium can be used to distinguish between recharge occurring before and after the onset of nuclear weapons testing testing. Upon entering the subsurface, the concentration of tritium decreases due to radioactive decay (half life 12.26 years). Naturally occurring tritium will have decayed from between 4 to 25 tritium units (TU) to between 1 to 4 TU. Typically values used for identifying pre-nuclear weapon testing groundwater are:

- High continental latitudes <4 TU; and
- Low continental latitudes <1 TU.

During sample collection for tritium analysis all wristwatches were removed from the vicinity of the well head, to prevent contamination of the sample. In addition, all samples were collected outdoors under normal atmospheric conditions, in the absence of a precipitation event. Groundwater samples were transported to The Rosenstiel School of Marine and Atmospheric Science, Tritium Laboratory, University of Miami, for the following analyses:

- Tritium, by enrichment and low-level counting of ultra-low activity water sample.

5.3 STABLE ISOTOPE OXYGEN $\delta^{18}\text{O}$ AND HYDROGEN δD ANALYSIS

Post-recharge mixing of groundwater and evaporation can be assessed using stable isotope analysis of oxygen $\delta^{18}\text{O}$ and hydrogen δD . The concentrations of oxygen $\delta^{18}\text{O}$ and hydrogen δD in precipitation that has not been evaporated are related linearly by the following equation:

- $\delta\text{D} = 8 \delta^{18}\text{O} + 10$ (Dansgaard, 1964)

This is known as the "Global Meteoric Water Line (GMWL)", and is based on global precipitation data. Natural processes cause deviation from this line, which include evaporation and mixing with evaporated waters. The factors which control the overall

isotopic signature of precipitation, include altitude, latitude, location within a continent (inland or coastal) and the amount of rainfall. Upon entering the subsurface, unless heated geothermally, the isotopic composition will only alter upon mixing with another isotopically different water body. Groundwater samples collected were transported to Geochron Laboratories of Massachusetts, for the following analyses:

- Stable isotope oxygen $\delta^{18}\text{O}$ and hydrogen δD analysis.

The laboratory reports and chain-of-custody forms are presented in Appendix B.

6 DISCUSSION OF MONITORING RESULTS

6.1 GROUNDWATER ELEVATION AND CONDITIONS

Table 2 presents groundwater elevation data collected from September 1999 to October 2001. Figure 3 shows hydrographs for monitoring wells at the Site. Figure 4 shows the groundwater potentiometric surface map from data collected on October 22, 2001. Groundwater potentiometric elevations for the monitoring wells installed in shallow groundwater (used in Figure 4) have ranged between 377.4 (MW-7) and 386.6 (MW-9) feet (115.0 and 117.8 m) above mean sea level (AMSL) since September 1999. Groundwater within water monitoring well MW-6 has been recorded at 396.4 feet (120.1 m) AMSL. However, it is likely that this represents a perched water zone, an interpretation supported by the low well yield when pumped. The surface elevation at the Site is approximately 420 feet (128 m) AMSL. On October 22, 2001, the shallow groundwater flow direction was approximately southeast at a gradient of approximately 0.009 feet per foot. The July 2001 flow direction and gradient are consistent with those estimated for September 1999 to April 2001 (Komex 2001a; 2001f).

6.2 INORGANIC ANALYTICAL RESULTS

Groundwater samples were not analyzed for inorganic constituents during this groundwater monitoring event. Previous results of inorganic analyses of groundwater samples collected by Komex are presented in Table 3. Figure 5 shows a Piper diagram of the data and Figure 6 shows Stiff diagrams for each well. The groundwater samples collected at the Site can be categorized as rich in calcium-bicarbonate, typical of groundwater in limestone. Also, TDS is lower in Wells MW-11, MW-11A, and WSW-1 than in the other wells, possibly because these wells were installed deeper than the other wells. The high proportion of calcium and bicarbonate concentrations compared to other constituents in the shallow aquifer indicate that dissolution of limestone and calcite in the soil is occurring more rapidly than in deeper parts of the aquifer. This is expected, as a result of infiltration of atmospheric CO₂ dissolved in precipitation, reaching the upper shallow groundwater, and creating acidic conditions that promote dissolution of carbonates. The sources of dissolved carbon dioxide are microbes in the soil and the atmosphere (Freeze and Cherry 1979).

6.3 BIOLOGICAL ANALYTICAL RESULTS

Groundwater samples were not analyzed for total heterotrophic plate counts nor BOD during this groundwater monitoring event. Previous results of biological analyses of groundwater samples collected by Komex, including 2000 results, are presented in Table 4. The results for Well WSW-1 are from the April 2001 Second Quarter sampling event. The groundwater sample from Well MW-11 showed significantly higher heterotrophic plate counts than samples from other wells. The reason for this difference has not been investigated.

6.4 ISOTOPIC ANALYTICAL RESULTS

The results of laboratory analyses of groundwater samples collected by Komex for isotopic analysis are presented in Table 6, along with borehole depths and screened interval (where available), and on Figure 8. The δD and $\delta^{18}O$ groundwater values in relation to meteoric water are displayed in Figure 9.

6.4.1 TRITIUM ANALYSIS

The concentration of tritium in the groundwater can be seen to decrease with depth beneath the Site (Table 7 and Figure 8). This is evident upon comparison of tritium concentrations with open borehole depth and screened interval (where available). The former water supply well WSW exhibits the highest tritium concentration (5.75 TU). This is slightly more than monitoring wells MW-3 (4.62 TU) and MW-5 (4.48 TU). These concentrations of >4 TU indicate that it is likely that a significant percentage of these shallow groundwaters waters are derived from post 1950's, after the onset of bomb testing.

Groundwater analysed from monitoring boreholes MW-11 (2.22 TU) and MW-11A (0.52 TU) displayed concentrations of tritium lower than 4 TU. This indicates that the groundwater collected from these monitoring wells primarily recharged the aquifer pre-1950's. This does however not account for mixing processes that might be occurring. A proportion of the groundwater at depth is likely to be derived from recent recharge, transported by fissure flow. This is supported by the detection of PCB, VOC's and SVOC's in this monitoring well (Table 5).

6.4.2 STABLE ISOTOPES OF HYDROGEN AND OXYGEN ANALYSIS

The concentrations of D and $\delta^{18}O$ groundwater can be seen to alter with depth beneath the Site (Table 7 and Figure 8). This is evident upon comparison of the stable isotope concentrations with open borehole depth and screened interval (where available). The former water supply well WSW, MW-3, MW-11 and MW-5 exhibit similar concentrations

and isotopic ratios of D and $\delta^{18}\text{O}$ (Figure 9). This is significantly different from those isotopic ratios observed with groundwater collected from MW-11A. Hence groundwater collected from this depth appears to have an older component of groundwater present. All of the groundwater analysed is located close to the meteoric water line, displaying no evaporative trends. However, mixing with an older meteoric water could yield a shift in isotopic ratio as seen for MW-11A.

6.5 ORGANIC ANALYTICAL RESULTS

Analytical results for groundwater samples from previous investigations conducted by EarthTech (1990 and 1991) are presented in Appendix C. The results of laboratory analyses of groundwater samples collected by Komex for organic compounds are presented in Table 5, with the Fourth Quarter 2001 results presented on Figure 7. Compounds not detected at the Site are not included in Table 5, except for PCE, which had been detected during previous groundwater sampling events. Laboratory analytical results are provided in Appendix B. The following compounds were detected in groundwater monitoring wells during the October 2001 sampling event:

- 1,1,1-Trichloroethane (1,1,1-TCA) in monitoring well MW-10;
- Trichloroethene (TCE) in monitoring well MW-10;
- 1,1-Dichloroethane (1,1-DCA) in monitoring wells MW-4 and MW-10;
- 1,1-Dichloroethene (1,1-DCE) in monitoring well MW-10;
- Benzene in monitoring wells MW-3;
- Chlorobenzene in monitoring wells MW-3, MW-4, MW-5 and MW-11;
- 1,2,4-Trichlorobenzene (1,2,4-TCB) in monitoring wells MW-4 and MW-10;
- 1,4-Dichlorobenzene(1,4-DCB) in monitoring well MW-3 ;
- Bis (2-ethylhexyl) phthalate in monitoring well MW-10; and
- Polychlorinated biphenyls (PCBs - Aroclor 1260) in monitoring wells MW-5, MW-11 and MW-11A.

Dissolved organic compounds were not detected in groundwater samples collected from Wells MW-6A, MW-7, MW-9 and WSW-1.

The number of analytes and the concentration of those analytes in many of the wells were different from the results of the Second and Third Quarter 2001 groundwater monitoring event (Table 5). Over the period April to October VOC, SVOC and PCB concentrations in

groundwater samples generally decreased, with some becoming non-detect. Between April and October Changes in COC concentrations were as follows:

- 1,1,1-Trichloroethane (1,1,1-TCA) decreased in MW-10 (8.0 ug/L to 6.6 ug/L);
- Trichloroethene (TCE) decreased in MW-10 (7.2 ug/L to 5.9 ug/L);
- 1,1-Dichloroethane (1,1-DCA) decreased in MW-4 (19 ug/L to 13 ug/L) and increased in MW-10 (16 ug/L to 22 ug/L);
- 1,1-Dichloroethene(1,1-DCE) decreased in MW-10 (7.0 ug/L to 6.8 ug/L);
- Benzene increased in MW-3 (5.3 ug/L to 16 ug/L);
- Chlorobenzene decreased in MW-4 (30 ug/L to 15 ug/L) and MW-5 (19 ug/L to 16 ug/L), but displayed an increase in MW-3 (510 ug/L to 1,400 ug/L) and MW-11 (5.9 ug/L to 7.7 ug/L);
- 1,2,4-Trichlorobenzene (1,2,4-TCB) decreased in MW-4 (41 ug/L to 17 ug/L), MW-7 (24 ug/L to non-detect) and MW-10 (31 ug/L to 28 ug/L);
- 1,3-Dichlorobenzene decreased in MW-4 (13 ug/L to non-detect);
- 1,4-Dichlorobenzene (1,4-DCB) decreased in MW-3 (25 ug/L to 17 ug/L), MW-4 (14 ug/L to non-detect);
- Bis (2-ethylhexyl) phthalate decreased in MW-11A (11 ug/L to non-detect), but increased in MW-10 (non-detect to 14 ug/L); and
- PCB decreased in MW-3 (4.7 ug/L to non-detect), MW-5 (85 ug/L to 5.4 ug/L), MW-11 (14 ug/L to 0.9 ug/L) and MW-11A (3.0 ug/L to 1.8 ug/L).

Although it appears that the general trend at the Site is decreasing concentrations of COCs, additional quarters of data will needed to confirm this trend. This was highlighted by the fact that between the Third and Fourth quarter sampling events several VOC's and SVOC's analytes displayed an increase in concentration. During this period PCB's tended to display a continued trend of decreasing concentrations. A report summarizing the data and interpretation of the data will be prepared following the First quarter of groundwater monitoring during January 2002.

7 DATAQU ALITY ASSESSMENT

Data quality was evaluated by the collection and analysis of one duplicate sample (Well MW-11), one equipment blank, one field blank, and one trip blank during the quarterly event. Table 6 summarizes the QA/QC data for this sample set. The QA/QC samples were analyzed for the following:

- VOCs in accordance with USEPA Method 8260B;
- SVOCs in accordance with USEPA Method 8270B; and,
- PCBs in accordance with USEPA Method 8082.

The trip blanks were prepared by the laboratory and accompanied collected groundwater samples in the field and during shipment to the laboratory. The field and equipment blanks were prepared using de-ionized (DI) water shipped from the laboratory. The field blank sample was collected at the site by pouring water from a 1-liter bottle directly into appropriate sample bottles at the well head of monitoring well MW-11A. The equipment blank was collected at the site by pouring water from the same 1-liter bottle over the stainless steel bailer after bailing Well MW-11a and decontaminating the bailer. None of the analyzed compounds analyzed were detected in the equipment blank, trip blank, or field blank.

Duplicate groundwater sample relative percent difference (RPD) for Well MW-4 was calculated to be 7.1 percent for chlorobenzene and 5.9 percent for 1,2,4-TCB. These percentages are within the acceptable QC laboratory limits of 30 percent. In addition, results for associated laboratory quality control samples were within EPA and AES established limits. However, 1,1-DCA was below the laboratory detectable limits in the first sample collected from MW-4 but was detected in the subsequent duplicate at a concentration of 13.0 µg/l. This is can be explained by the high volatility of this analyte combined with the concentration recorded being within four multiples of the detection limit (detection limit <5 µg/l).

8 CLOSURE/LIMITATIONS

This report has been prepared for the exclusive use of MEW Site Trust Fund Donors as it pertains to the MEW Site in Cape Girardeau, Missouri. Our services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by reputable, qualified environmental consultants practicing in this or similar locations. No other warranty, either expressed or implied, is made as to the professional advice included in this report. These services were performed consistent with our agreement with our client.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We do not warrant the accuracy of information supplied by others or the use of segregated portions of this report.

The purpose of a geologic/hydrogeologic/contaminant investigation is to reasonably characterize existing subsurface conditions at the Site. In performing such an investigation, it is understood that no investigation is thorough enough to describe all subsurface conditions of interest at a given site. If conditions have not been identified during the investigation, such a finding should not, therefore, be construed as a guarantee of the absence of such conditions at the Site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

In regard to geologic/hydrogeologic/contaminant conditions, our professional opinions are based in part on interpretation of data from discrete sampling locations. It should be noted that actual conditions at unsampled locations may differ from those interpreted from sampled locations.

Respectfully submitted,
KOMEX

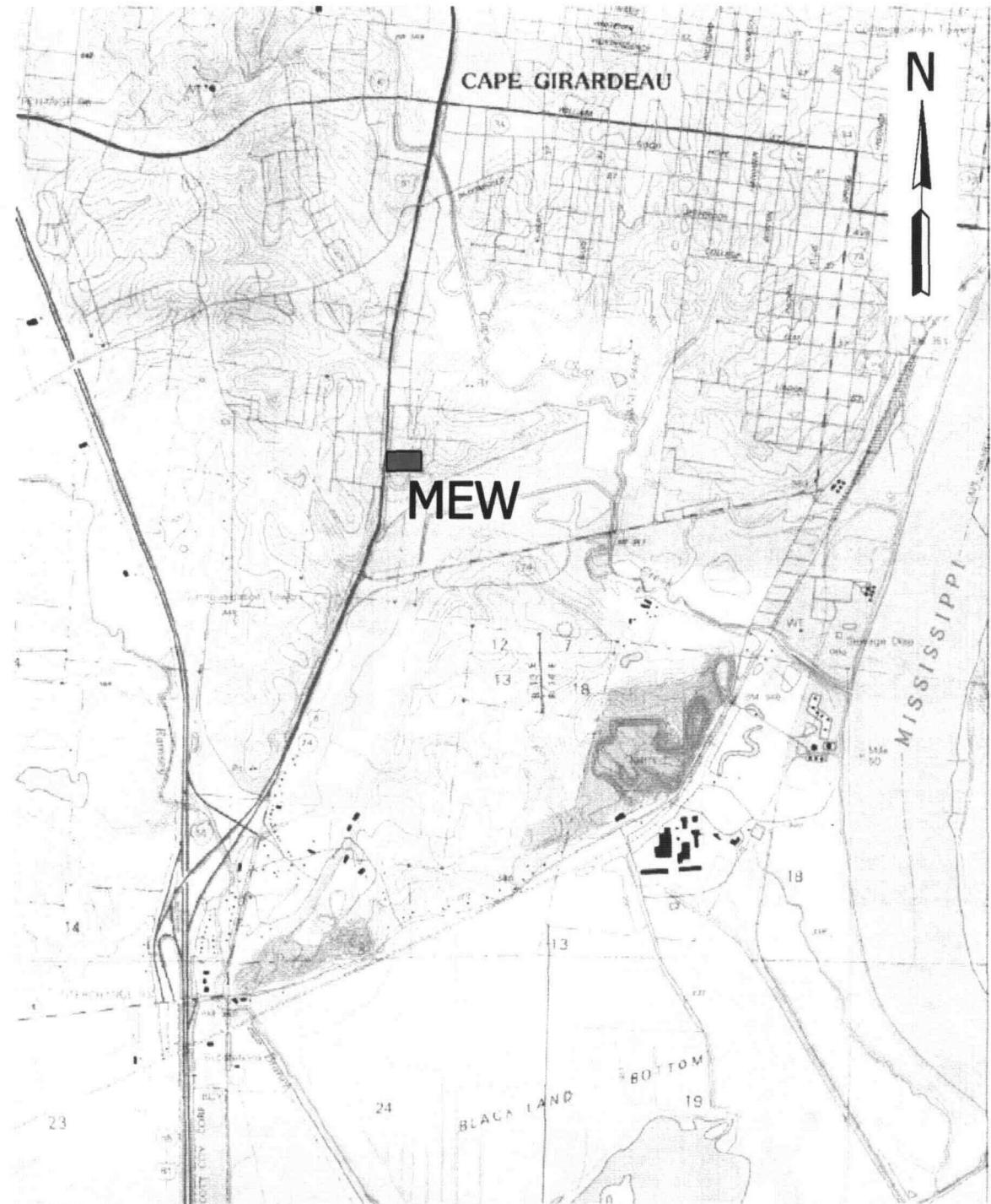
Shawn Roberts, Ph.D.,
Hydrogeologist

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Break7_016335

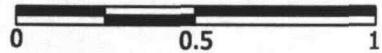
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NOTES:

- 1) BASEMAP FROM USGS 7.5 MINUTE CAPE GIRARDEAU QUADRANGLE (1965, REVISED 1993).
- 2) ALL LOCATIONS ARE APPROXIMATE.

APPROXIMATE SCALE IN MILES



DRAWN BY: KDM	APPROVED BY:
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EDITED BY: SCR	SCALE: 1 inch = 0.5 miles
DATE: 3/17/02	



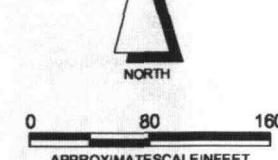
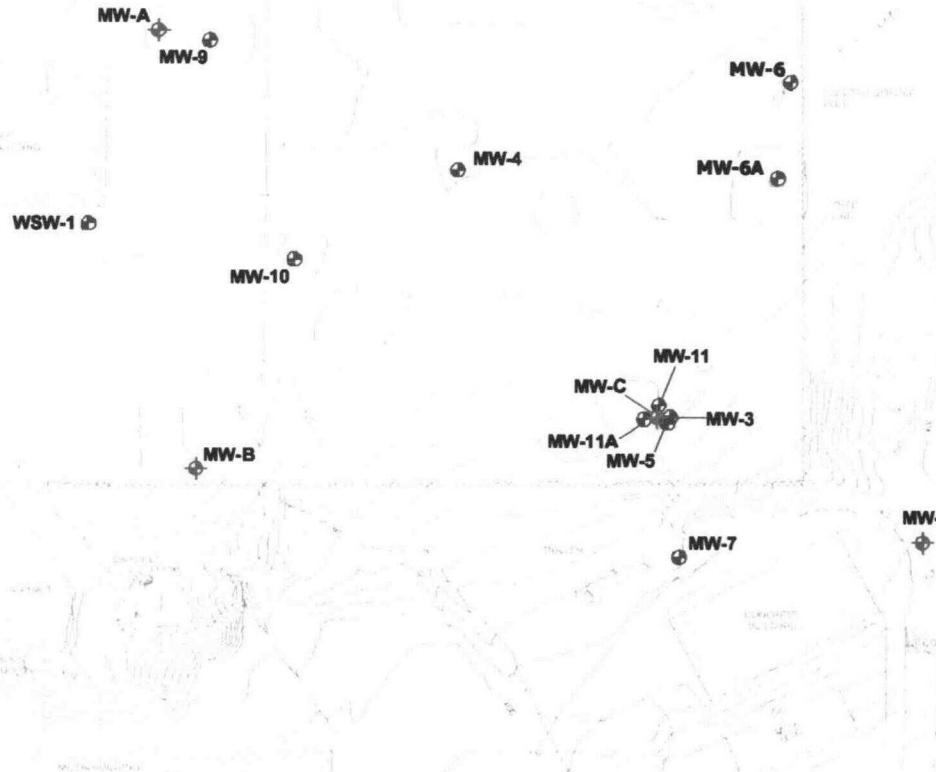
KOMEX
 ENVIRONMENT AND WATER RESOURCES
PREPARED SOLELY FOR THE USE OF OUR CLIENT AND NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH KOMEX HAS NOT ENTERED INTO A CONTRACT.

CLIENT: MEW TRUST FUND DONORS
PROJECT/SITE: MISSOURI ELECTRIC WORKS (MEW) CAPE GIRARDEAU, MO
TITLE: SITE LOCATION MAP
FILENAME: FIGURE_1QMR_2002.CDR

1

LEGEND:

- MONITORING WELL
- ◆ ABANDONED WELL
- ◆ SUBSURFACE NATURAL GAS PIPELINE

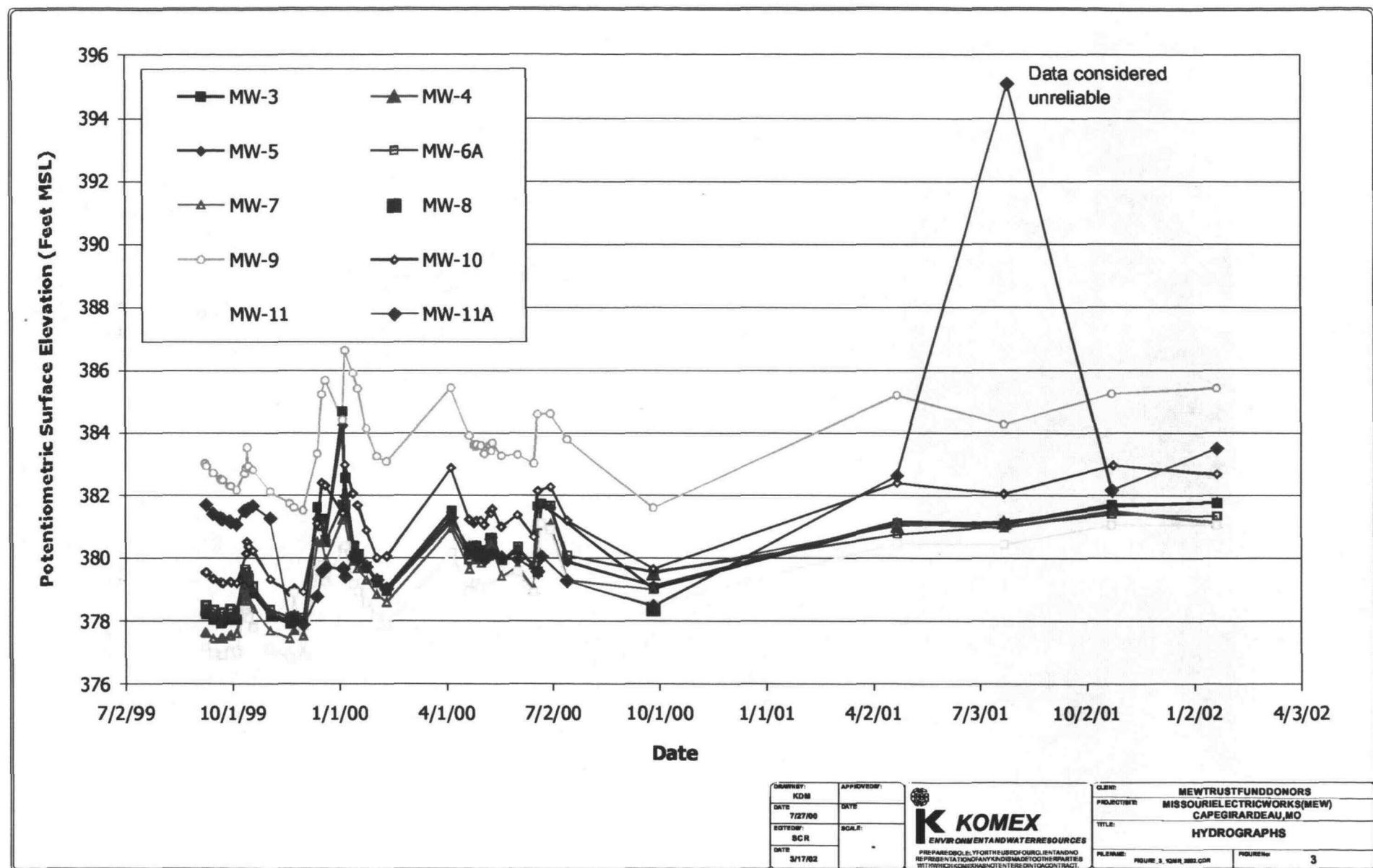


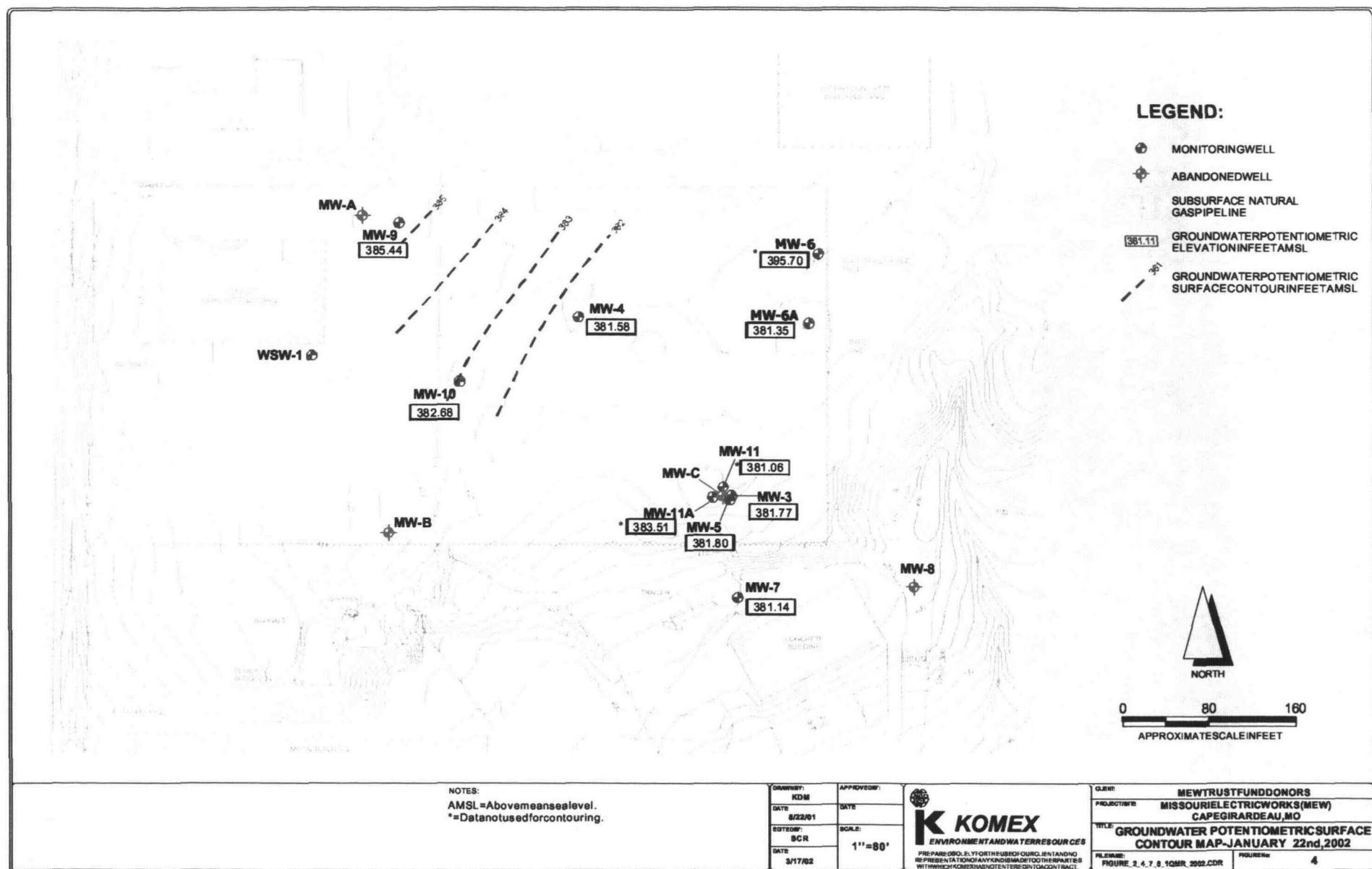
NOTES:
WSW-1 is a water supply well which is no longer in service,
but it is being sampled quarterly.
MW-B and MW-8 were abandoned September 2000.
Well construction details for MW-A, MW-B, MW-C, MW-6
and WSW-1 are not known.

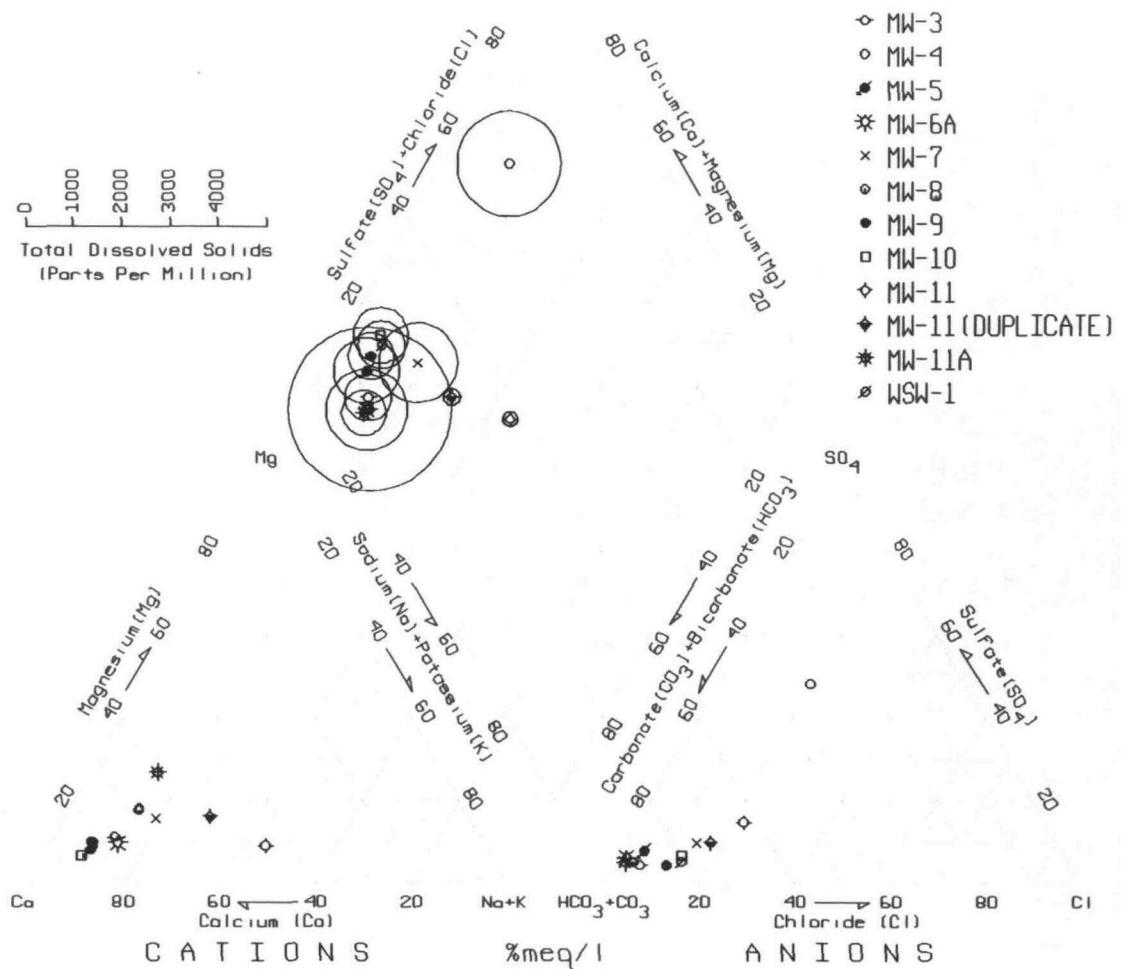
DRAWN BY:	APPROVED BY:
KDM	DATE
8/22/01	
EDITEO BY:	SCALE:
SGR	1"=80'
DATE	
3/17/02	



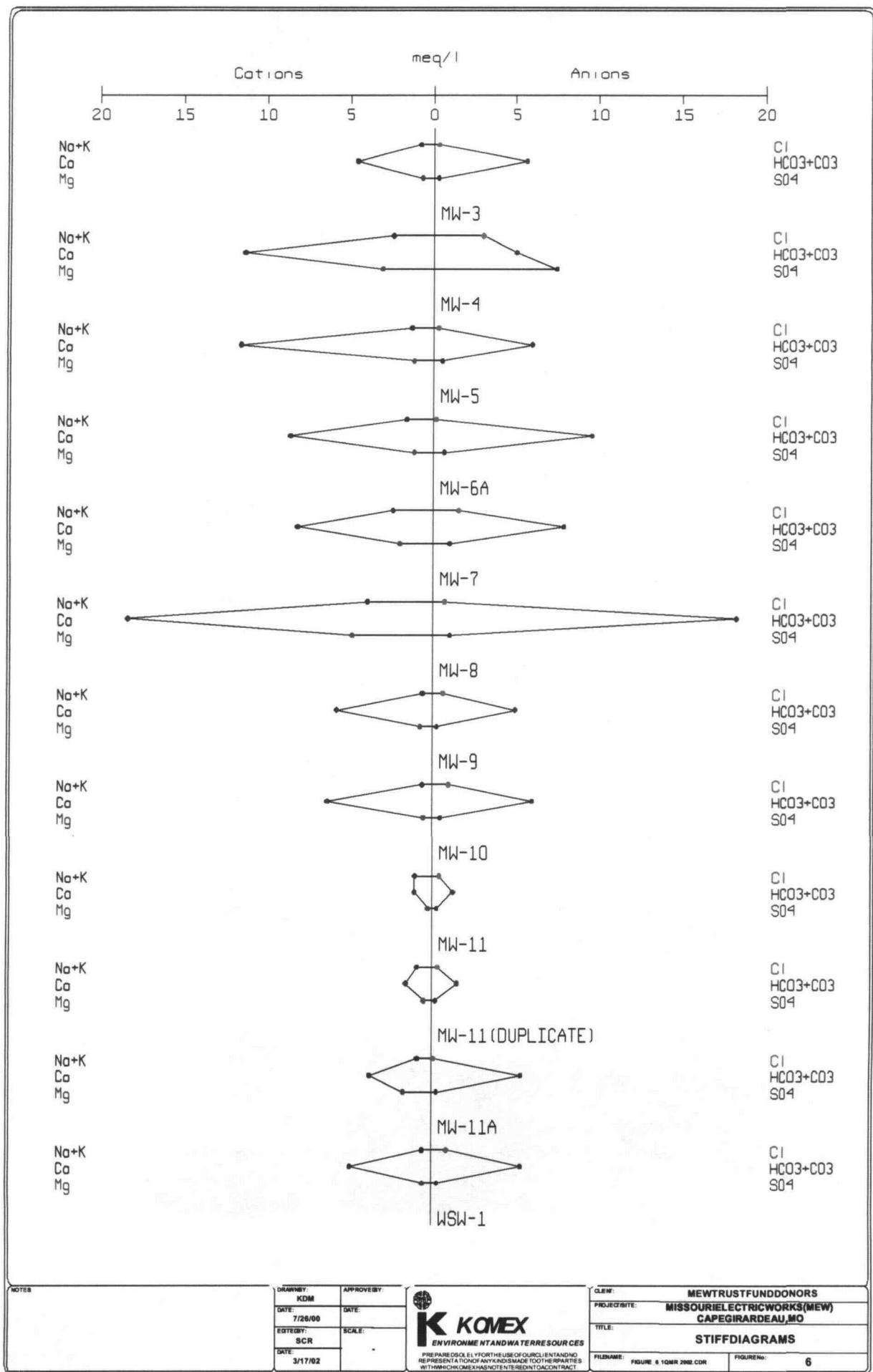
CLIENT:	MEW TRUST FUND DONORS
PROJECT NAME:	MISSOURI ELECTRIC WORKS (MEW) CAPE GIRARDEAU, MO
TITLE:	SITE PLAN
PREPARED BY:	FIGURE_2_4_7_8_1QMR_2002
FIGURE NUMBER:	2







DRAWN BY: KDM	APPROVED BY: 	CLIENT: MEWTRUSTFUNDONORS
DATE: 7/27/02	DATE: 	PROJECT #: MISSOURIELECTRICWORKS(MEW)
EDITED BY: SCR	SCALE: 	TITLE: CAPEGARDEAU, MO
DATE: 3/16/02		
KOMEX ENVIRONMENT AND WATER RESOURCES		
PREPARED FOR: YF-OILTHEBROOK GROUP, INC. AND NO REPRESENTATION ANY KIND IS MADE TO OTHER PARTIES WITHWHICH KOMEX HAS NOT ENTERED INTO A CONTRACT		
FILENAME: FIGURE_B_16339.DWG	FIGURE #: 5	

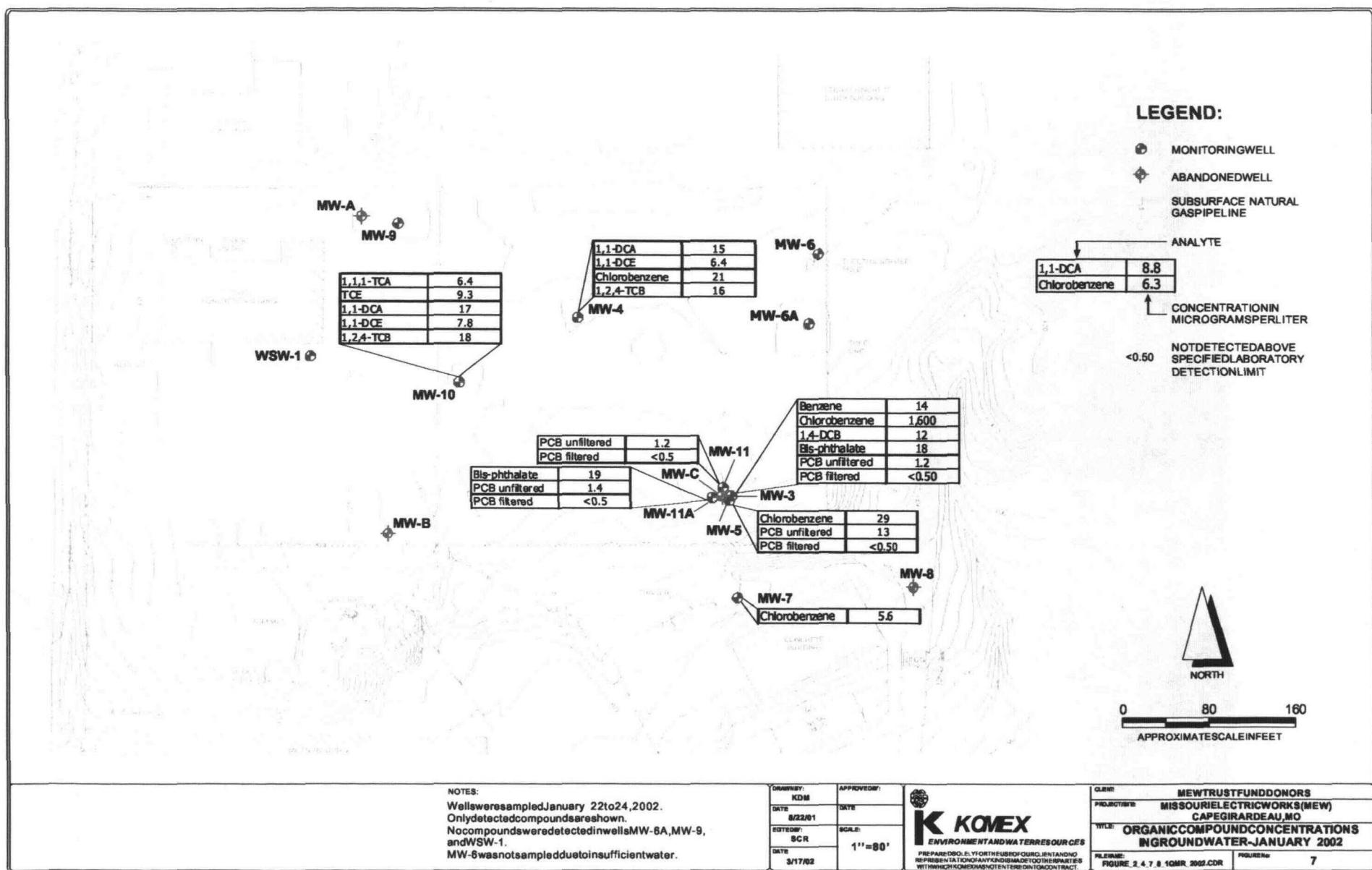


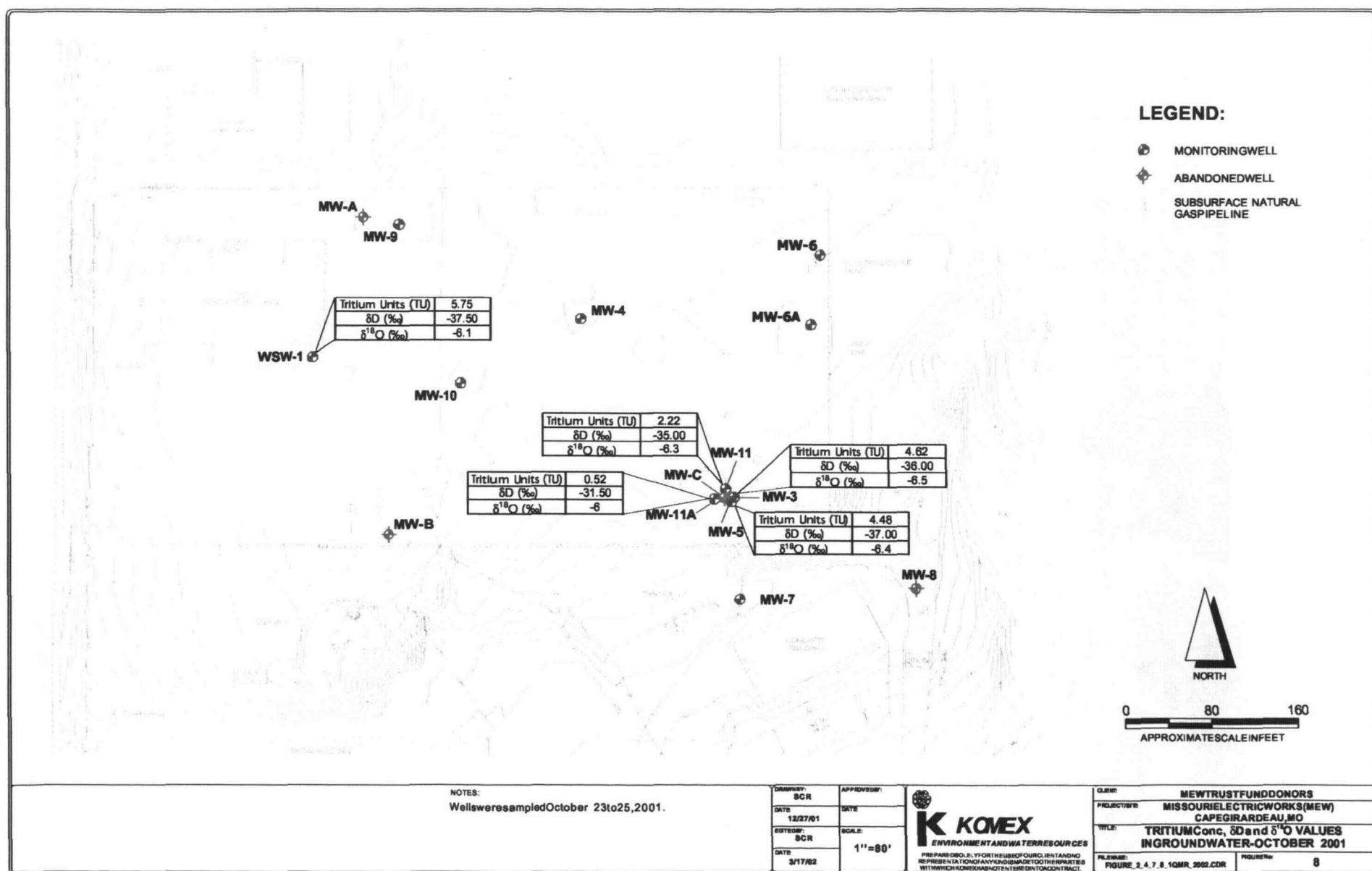
NOTES	DRAWN BY: KDM	APPROVED BY:
	DATE: 7/26/00	DATE:
	EDITED BY: SCR	SCALE:
	DATE: 3/17/02	

DRAWN BY: KDM	APPROVED BY:
DATE: 7/26/00	DATE:
EDITED BY: SCR	SCALE:
DATE: 3/17/02	

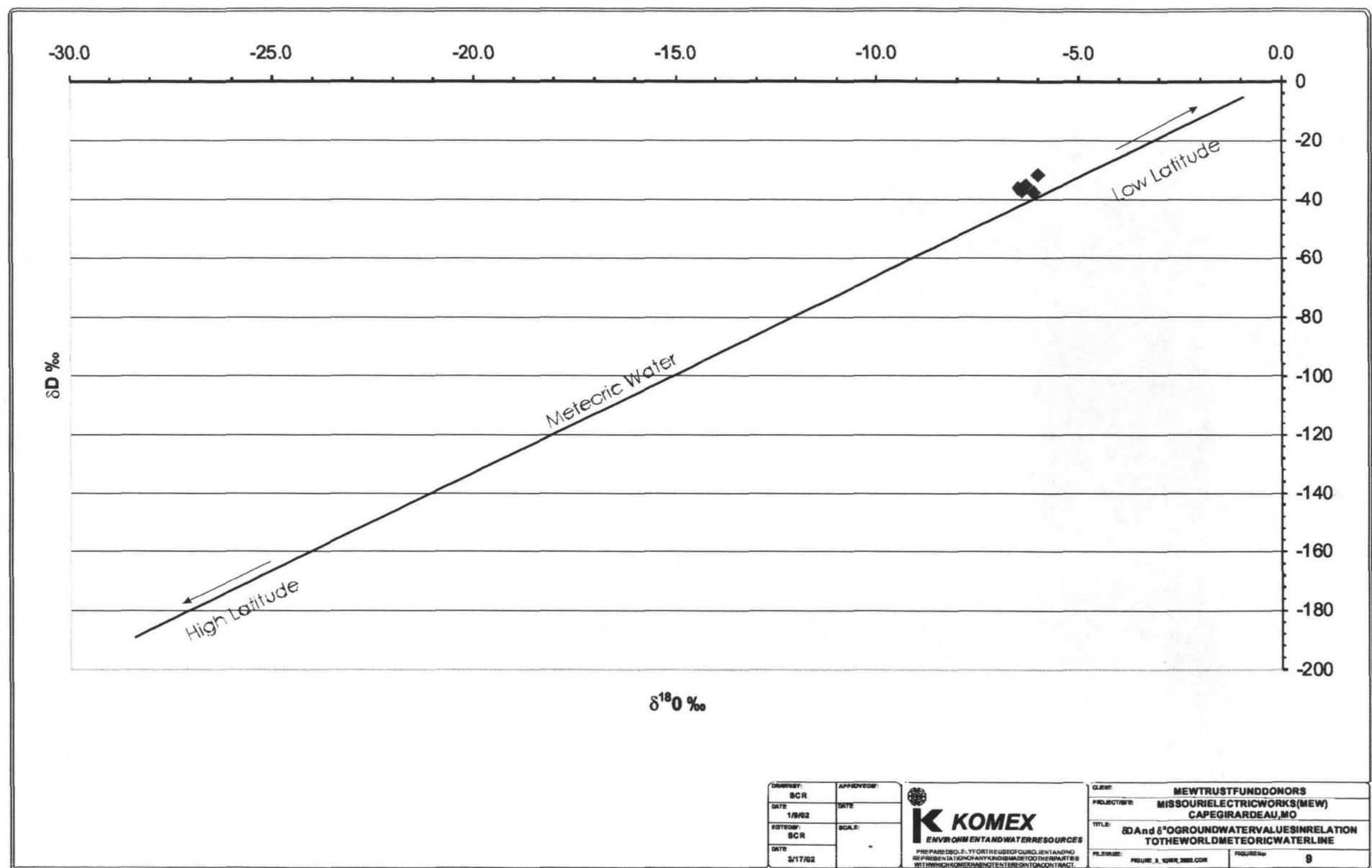


CLIENT: MEWTRUSTFUNDONORS	PROJECT SITE: MISSOURIELECTRICWORKS(MEW) CAPEGIRARDEAU, MO
TITLE: STIFFDIAGRAMS	FILE NAME: FIGURE 6.1QMR 2002.CDR
FIGURE NO: 6	





MEW Site File
Break7_016343



DRAFTER:	APPROVED:
SCR	
1/9/02	
EDTEOR:	SCALE:
SCR	
3/17/02	



CLIENT:	MEW TRUST FUND DONORS
PROJECT SITE:	MISSOURI ELECTRIC WORKS (MEW) CAPE GIRARDEAU, MO
TITLE:	δD AND δ¹⁸O GROUNDWATER VALUES IN RELATION TO THE WORLD METEORIC WATER LINE
RELEASE:	FIGURE 3_KOMEX_2002.CDR
FIGURE #:	9

TABLE 1
GROUNDWATERWELL CONSTRUCTION DETAILS
Missouri Electric Works, Cape Girardeau

Well ID	Date Installed	Date Abandoned	Top of Casing Elevation (feet MSL)	Total Depth (Approximate) (feet BGS)	Casing Diameter (inches)	Screened Interval (feet BGS)
MW-A	NA	NA	NA	NA	NA	NA
MW-B	NA	30-Sep-2000	NA	NA	2	NA
MW-C	NA	NA	NA	NA	NA	NA
MW-3	NA	-	420.06	60	2	NA
MW-4	NA	-	422.78	58	2	NA
MW-5	NA	-	419.52	42	2	NA
MW-6	NA	-	424.11	28	2	NA
MW-6A	1-Mar-1990	-	424.22	46	2	35 to 4.5
MW-7	1-Mar-1990	-	403.76	33	2	21 to 3.1
MW-8	1-Mar-1990	30-Sep-2000	401.74	21	2	21 to 3.1
MW-9	1-Mar-1990	-	423.74	50	2	38 to 4.8
MW-10	1-Mar-1990	-	422.78	63	2	50 to 6.0
MW-11	Jan-1991	-	420.20	120	2	115 to 12.0
MW-11A	June-1991	-	421.92	405	4	No Screen
WSW-1	NA	-	NA	150	6	NA

Notes:

- 1) M SL = Above mean sea level.
- 2) BG S = Below ground surface face.
- 3) NA = Not available.
- 4) MW-4 was covered by a single ledged ring surface filter media.
- 5) The casing of MW-7 was lowered on September 26, 2000. The elevation of the bottom was 405.86 feet MSL.
- 6) On February 20, 2000, the head of the well MW-10 was damaged and the top portion collapsed. The screen was removed. The elevation of the bottom was 423.15 feet MSL.
- 7) Well W-1 is inactive at present.

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOS)	Groundwater Elevation (feet MSL)
MW-3	8-Sep-1999	420.06	41.75	378.31
	9-Sep-1999	420.06	41.85	378.21
	15-Sep-1999	420.06	42.00	378.06
	21-Sep-1999	420.06	42.11	377.95
	22-Sep-1999	420.06	42.09	377.97
	23-Sep-1999	420.06	42.05	378.01
	29-Sep-1999	420.06	42.01	378.05
	30-Sep-1999	420.06	42.00	378.06
	5-Oct-1999	420.06	42.00	378.06
	12-Oct-1999	420.06	40.61	379.45
	13-Oct-1999	420.06	40.72	379.34
	14-Oct-1999	420.06	40.85	379.21
	15-Oct-1999	420.06	40.89	379.17
	19-Oct-1999	420.06	41.19	378.87
	3-Nov-1999	420.06	41.90	378.16
	19-Nov-1999	420.06	42.14	377.92
	23-Nov-1999	420.06	41.91	378.15
	1-Dec-1999	420.06	42.10	377.96
	13-Dec-1999	420.06	38.44	381.62
	17-Dec-1999	420.06	38.80	381.26
	20-Dec-1999	420.06	39.50	380.56
	4-Jan-2000	420.06	35.35	384.71
	6-Jan-2000	420.06	37.50	382.56
	13-Jan-2000	420.06	39.65	380.41
	17-Jan-2000	420.06	39.91	380.15
	24-Jan-2000	420.06	40.31	379.75
	2-Feb-2000	420.06	40.76	379.30
	10-Feb-2000	420.06	41.02	379.04
	6-Apr-2000	420.06	38.55	381.51
	21-Apr-2000	420.06	39.95	380.11
	25-Apr-2000	420.06	39.75	380.31
	26-Apr-2000	420.06	39.74	380.32
	27-Apr-2000	420.06	39.67	380.39
	1-May-2000	420.06	39.84	380.22
	4-May-2000	420.06	39.81	380.25
	9-May-2000	420.06	39.44	380.62
	10-May-2000	420.06	39.41	380.65
	11-May-2000	420.06	39.42	380.64
	19-May-2000	420.06	40.14	379.92
	2-Jun-2000	420.06	39.81	380.25

Notes:

- 1) MSL = Above mean sea level.
- 2) BTOS = Below top of casing.

MEW Site File
Break7_016345

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-3 (Continued)	19-Jun-2000	420.06	40.50	379.56
	22-Jun-2000	420.06	38.32	381.74
	26-Sep-2000	420.06	41.01	379.05
	23-Apr-2001	420.06	38.95	381.11
	24-Jul-2001	420.06	38.95	381.11
	24-Oct-2001	420.06	38.35	381.71
	22-Jan-2002	420.06	38.29	381.77
MW-4	26-Sep-2000	422.78	43.25	379.53
	23-Apr-2001	422.78	41.74	381.04
	24-Jul-2001	422.78	41.62	381.16
	25-Oct-2001	422.78	41.14	381.64
	22-Jan-2002	422.78	41.20	381.58
MW-5	8-Sep-1999	419.52	41.15	378.37
	9-Sep-1999	419.52	41.20	378.32
	15-Sep-1999	419.52	41.36	378.16
	21-Sep-1999	419.52	41.55	377.97
	22-Sep-1999	419.52	41.49	378.03
	23-Sep-1999	419.52	41.44	378.08
	29-Sep-1999	419.52	41.36	378.16
	30-Sep-1999	419.52	41.36	378.16
	5-Oct-1999	419.52	41.34	378.18
	12-Oct-1999	419.52	40.02	379.50
	15-Oct-1999	419.52	40.22	379.30
	19-Oct-1999	419.52	40.55	378.97
	3-Nov-1999	419.52	41.25	378.27
	19-Nov-1999	419.52	41.50	378.02
	23-Nov-1999	419.52	41.31	378.21
	1-Dec-1999	419.52	41.50	378.02
	13-Dec-1999	419.52	38.27	381.25
	17-Dec-1999	419.52	38.31	381.21
	20-Dec-1999	419.52	38.95	380.57
	4-Jan-2000	419.52	35.25	384.27
	6-Jan-2000	419.52	37.55	381.97
	13-Jan-2000	419.52	39.10	380.42
	17-Jan-2000	419.52	39.35	380.17
	24-Jan-2000	419.52	39.77	379.75
	2-Feb-2000	419.52	40.20	379.32
	10-Feb-2000	419.52	40.45	379.07
	6-Apr-2000	419.52	38.06	381.46
	21-Apr-2000	419.52	39.39	380.13
	25-Apr-2000	419.52	39.15	380.37
	26-Apr-2000	419.52	39.12	380.40

Notes:

- 1) MSL= Above mean sea level.
- 2) BTOC=Below top of casing.

MEW Site File
Break7_016346

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-5 (Continued)	27-Apr-2000	419.52	39.12	380.40
	1-May-2000	419.52	39.27	380.25
	4-May-2000	419.52	39.25	380.27
	9-May-2000	419.52	38.90	380.62
	10-May-2000	419.52	38.85	380.67
	11-May-2000	419.52	38.85	380.67
	19-May-2000	419.52	39.56	379.96
	2-Jun-2000	419.52	39.21	380.31
	19-Jun-2000	419.52	39.92	379.60
	22-Jun-2000	419.52	37.77	381.75
	30-Jun-2000	419.52	37.91	381.61
	14-Jul-2000	419.52	39.62	379.90
	26-Sep-2000	419.52	40.39	379.13
	23-Apr-2001	419.52	38.35	381.17
	24-Jul-2001	419.52	38.41	381.11
	24-Oct-2001	419.52	37.84	381.68
	22-Jan-2002	419.52	37.72	381.80
MW-6	26-Sep-2000	424.11	28.20	395.91
	23-Apr-2001	424.11	27.76	396.35
	24-Jul-2001	424.11	28.41	395.70
	22-Jan-2002	424.11	27.95	395.70
MW-6A	8-Sep-1999	424.22	45.71	378.51
	9-Sep-1999	424.22	45.71	378.51
	15-Sep-1999	424.22	45.85	378.37
	21-Sep-1999	424.22	45.95	378.27
	22-Sep-1999	424.22	45.95	378.27
	23-Sep-1999	424.22	45.94	378.28
	29-Sep-1999	424.22	45.83	378.39
	30-Sep-1999	424.22	45.84	378.38
	5-Oct-1999	424.22	45.87	378.35
	12-Oct-1999	424.22	44.56	379.66
	13-Oct-1999	424.22	44.65	379.57
	14-Oct-1999	424.22	44.76	379.46
	15-Oct-1999	424.22	44.84	379.38
	19-Oct-1999	424.22	45.11	379.11
	3-Nov-1999	424.22	45.85	378.37
	19-Nov-1999	424.22	46.09	378.13
	23-Nov-1999	424.22	46.05	378.17
	1-Dec-1999	424.22	46.10	378.12

Notes:

- 1) MSL= Above mean sea level.
- 2) BTOC = Below top of casing.

MEW Site File
Break7_016347

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-6A (Continued)	17-Dec-1999	424.22	43.20	381.02
	20-Dec-1999	424.22	43.71	380.51
	4-Jan-2000	424.22	42.50	381.72
	6-Jan-2000	424.22	42.51	381.71
	13-Jan-2000	424.22	43.91	380.31
	17-Jan-2000	424.22	44.17	380.05
	24-Jan-2000	424.22	44.54	379.68
	2-Feb-2000	424.22	45.00	379.22
	10-Feb-2000	424.22	45.26	378.96
	6-Apr-2000	424.22	43.07	381.15
	21-Apr-2000	424.22	44.25	379.97
	25-Apr-2000	424.22	44.00	380.22
	26-Apr-2000	424.22	44.02	380.20
	27-Apr-2000	424.22	44.03	380.19
	1-May-2000	424.22	44.13	380.09
	4-May-2000	424.22	44.17	380.05
	9-May-2000	424.22	43.81	380.41
	10-May-2000	424.22	43.79	380.43
	11-May-2000	424.22	43.79	380.43
	19-May-2000	424.22	44.29	379.93
	2-Jun-2000	424.22	43.85	380.37
	16-Jun-2000	424.22	44.44	379.78
	19-Jun-2000	424.22	42.56	381.66
	30-Jun-2000	424.22	42.54	381.68
	14-Jul-2000	424.22	44.13	380.09
	26-Sep-2000	424.22	44.65	379.57
	23-Apr-2001	424.22	43.47	380.75
	24-Jul-2001	424.22	43.18	381.04
	24-Oct-2001	424.22	42.81	381.41
	22-Jan-2002	424.22	42.87	381.35
MW-7	8-Sep-1999	405.86	28.21	377.65
	9-Sep-1999	405.86	28.24	377.62
	15-Sep-1999	405.86	28.40	377.46
	21-Sep-1999	405.86	28.42	377.44
	22-Sep-1999	405.86	28.42	377.44
	23-Sep-1999	405.86	28.40	377.46
	29-Sep-1999	405.86	28.33	377.53
	30-Sep-1999	405.86	28.31	377.55

Notes:

- 1) MSL = Above mean sea level.
- 2) BTOC = Below top of casing.

MEW Site File
Break7_016348

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-7	5-Oct-1999	405.86	28.25	377.61
(Continued)	12-Oct-1999	405.86	26.80	379.06
	13-Oct-1999	405.86	27.00	378.86
	14-Oct-1999	405.86	27.11	378.75
	15-Oct-1999	405.86	27.21	378.65
	19-Oct-1999	405.86	27.46	378.40
	3-Nov-1999	405.86	28.16	377.70
	19-Nov-1999	405.86	28.41	377.45
	23-Nov-1999	405.86	28.15	377.71
	1-Dec-1999	405.86	28.32	377.54
	13-Dec-1999	405.86	25.32	380.54
	17-Dec-1999	405.86	25.37	380.49
	20-Dec-1999	405.86	25.91	379.95
	4-Jan-2000	405.86	24.65	381.21
	6-Jan-2000	405.86	24.66	381.20
	13-Jan-2000	405.86	25.95	379.91
	17-Jan-2000	405.86	26.19	379.67
	24-Jan-2000	405.86	26.55	379.31
	2-Feb-2000	405.86	27.00	378.86
	10-Feb-2000	405.86	27.25	378.61
	6-Apr-2000	405.86	24.91	380.95
	21-Apr-2000	405.86	26.20	379.66
	25-Apr-2000	405.86	25.75	380.11
	26-Apr-2000	405.86	25.89	379.97
	27-Apr-2000	405.86	25.76	380.10
	1-May-2000	405.86	26.02	379.84
	4-May-2000	405.86	25.87	379.99
	9-May-2000	405.86	25.59	380.27
	10-May-2000	405.86	25.41	380.45
	11-May-2000	405.86	25.55	380.31
	19-May-2000	405.86	26.42	379.44
	2-Jun-2000	405.86	26.13	379.73
	16-Jun-2000	405.86	26.84	379.02
	19-Jun-2000	405.86	24.83	381.03
	30-Jun-2000	405.86	24.76	381.10
	14-Jul-2000	405.86	26.55	379.31
	26-Sep-2000	405.86	26.85	379.01

Notes:

- 1) MSL = Above mean sea level.
- 2) BTOC = Below top of casing.

MEW Site File
Break7_016349

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-7 (Continued)	23-Apr-2001	405.86	24.72	381.14
	24-Jul-2001	403.76	22.77	380.99
	25-Oct-2001	403.76	22.25	381.51
	22-Jan-2002	403.76	22.62	381.14
MW-8	26-Sep-2000	399.98	21.60	378.38
MW-9	8-Sep-1999	423.74	40.72	383.02
	9-Sep-1999	423.74	40.80	382.94
	15-Sep-1999	423.74	41.02	382.72
	21-Sep-1999	423.74	41.21	382.53
	22-Sep-1999	423.74	41.24	382.50
	23-Sep-1999	423.74	41.24	382.50
	29-Sep-1999	423.74	41.44	382.30
	30-Sep-1999	423.74	41.44	382.30
	5-Oct-1999	423.74	41.56	382.18
	12-Oct-1999	423.74	41.04	382.70
	13-Oct-1999	423.74	40.86	382.88
	14-Oct-1999	423.74	40.19	383.55
	15-Oct-1999	423.74	40.81	382.93
	19-Oct-1999	423.74	40.92	382.82
	3-Nov-1999	423.74	41.61	382.13
	19-Nov-1999	423.74	42.00	381.74
	23-Nov-1999	423.74	42.12	381.62
	1-Dec-1999	423.74	42.21	381.53
	13-Dec-1999	423.74	40.40	383.34
	17-Dec-1999	423.74	38.50	385.24
	20-Dec-1999	423.74	38.05	385.69
	4-Jan-2000	423.74	39.31	384.43
	6-Jan-2000	423.74	37.10	386.64
	13-Jan-2000	423.74	37.81	385.93
	17-Jan-2000	423.74	38.31	385.43
	24-Jan-2000	423.74	39.60	384.14
	2-Feb-2000	423.74	40.47	383.27
	10-Feb-2000	423.74	40.64	383.10
	6-Apr-2000	423.74	38.29	385.45
	21-Apr-2000	423.74	39.81	383.93
	25-Apr-2000	423.74	40.12	383.62
	26-Apr-2000	423.74	40.17	383.57
	27-Apr-2000	423.74	40.10	383.64
	1-May-2000	423.74	40.14	383.60

Notes:

- 1) M SL=Above means sea level.
- 2) BTOC=Below top of casing.

MEW Site File
Break7_016350

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-9 (Continued)	4-May-2000	423.74	40.40	383.34
	9-May-2000	423.74	40.13	383.61
	10-May-2000	423.74	40.30	383.44
	11-May-2000	423.74	40.06	383.68
	19-May-2000	423.74	40.46	383.28
	2-Jun-2000	423.74	40.43	383.31
	16-Jun-2000	423.74	40.71	383.03
	19-Jun-2000	423.74	39.13	384.61
	30-Jun-2000	423.74	39.12	384.62
	14-Jul-2000	423.74	39.94	383.80
	26-Sep-2000	423.74	42.13	381.61
	23-Apr-2001	423.74	38.52	385.22
	24-Jul-2001	423.74	39.45	384.29
	24-Oct-2001	423.74	38.48	385.26
MW-10	22-Jan-2002	423.74	38.30	385.44
	8-Sep-1999	423.15	43.59	379.56
	9-Sep-1999	423.15	43.59	379.56
	15-Sep-1999	423.15	43.80	379.35
	21-Sep-1999	423.15	43.91	379.24
	22-Sep-1999	423.15	43.95	379.20
	23-Sep-1999	423.15	43.93	379.22
	29-Sep-1999	423.15	43.89	379.26
	30-Sep-1999	423.15	43.90	379.25
	5-Oct-1999	423.15	43.94	379.21
	13-Oct-1999	423.15	43.00	380.15
	14-Oct-1999	423.15	42.62	380.53
	15-Oct-1999	423.15	42.78	380.37
	19-Oct-1999	423.15	42.91	380.24
	3-Nov-1999	423.15	43.81	379.34
	19-Nov-1999	423.15	44.24	378.91
	23-Nov-1999	423.15	44.11	379.04
	1-Dec-1999	423.15	44.21	378.94
	13-Dec-1999	423.15	42.05	381.10
	17-Dec-1999	423.15	40.75	382.40
	20-Dec-1999	423.15	40.84	382.31
	4-Jan-2000	423.15	41.71	381.44
	6-Jan-2000	423.15	40.16	382.99
	13-Jan-2000	423.15	41.09	382.06

Notes:

- 1) MSL = Above mean sea level.
 2) BTOC = Below top of casing.

- 3) On February 2, 2000, the wellhead of well MW-10 was damaged and the top of casing was lowered.

MEW Site File
Break7_016351

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-10 (Continued)	17-Jan-2000	423.15	41.45	381.70
	24-Jan-2000	423.15	42.25	380.90
	2-Feb-2000	422.78	42.76	380.02
	10-Feb-2000	422.78	42.71	380.07
	6-Apr-2000	422.78	39.90	382.88
	21-Apr-2000	422.78	41.55	381.23
	25-Apr-2000	422.78	41.66	381.12
	26-Apr-2000	422.78	41.61	381.17
	27-Apr-2000	422.78	41.59	381.19
	1-May-2000	422.78	41.59	381.19
	4-May-2000	422.78	41.71	381.07
	9-May-2000	422.78	41.31	381.47
	10-May-2000	422.78	41.35	381.43
	11-May-2000	422.78	41.20	381.58
	19-May-2000	422.78	41.78	381.00
	2-Jun-2000	422.78	41.41	381.37
	16-Jun-2000	422.78	42.10	380.68
	19-Jun-2000	422.78	40.63	382.15
	30-Jun-2000	422.78	40.50	382.28
	14-Jul-2000	422.78	41.57	381.21
	26-Sep-2000	422.78	43.11	379.67
	23-Apr-2001	422.78	40.37	382.41
	24-Jul-2001	422.78	40.71	382.07
	25-Oct-2001	422.78	39.80	382.98
	22-Jan-2002	422.78	40.10	382.68
MW-11	8-Sep-1999	420.20	43.01	377.19
	15-Sep-1999	420.20	43.21	376.99
	21-Sep-1999	420.20	43.30	376.90
	22-Sep-1999	420.20	43.29	376.91
	23-Sep-1999	420.20	43.28	376.92
	29-Sep-1999	420.20	43.15	377.05
	30-Sep-1999	420.20	43.18	377.02
	5-Oct-1999	420.20	43.20	377.00
	12-Oct-1999	420.20	41.85	378.35
	13-Oct-1999	420.20	41.95	378.25
	14-Oct-1999	420.20	42.05	378.15
	15-Oct-1999	420.20	42.12	378.08
	19-Oct-1999	420.20	42.41	377.79

Notes:

- 1) MSL = Above mean sea level.
- 2) BTOC = Below top of casing.

MEW Site File
Break7_016352

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-11 (Continued)	3-Nov-1999	420.20	43.11	377.09
	19-Nov-1999	420.20	43.34	376.86
	23-Nov-1999	420.20	41.31	378.89
	1-Dec-1999	420.20	43.31	376.89
	13-Dec-1999	420.20	40.61	379.59
	17-Dec-1999	420.20	40.40	379.80
	20-Dec-1999	420.20	40.95	379.25
	4-Jan-2000	420.20	39.91	380.29
	6-Jan-2000	420.20	39.81	380.39
	13-Jan-2000	420.20	41.03	379.17
	17-Jan-2000	420.20	41.25	378.95
	24-Jan-2000	420.20	41.62	378.58
	2-Feb-2000	420.20	42.05	378.15
	10-Feb-2000	420.20	42.30	377.90
	6-Apr-2000	420.20	40.02	380.18
	21-Apr-2000	420.20	41.24	378.96
	25-Apr-2000	420.20	41.05	379.15
	26-Apr-2000	420.20	41.04	379.16
	27-Apr-2000	420.20	40.99	379.21
	1-May-2000	420.20	41.11	379.09
	2-Jun-2000	420.20	40.64	379.56
	16-Jun-2000	420.20	41.30	378.90
	22-Jun-2000	420.20	39.10	381.10
	30-Jun-2000	420.20	39.29	380.91
	14-Jul-2000	420.20	40.94	379.26
	26-Sep-2000	420.20	41.65	378.55
	23-Apr-2001	420.20	39.73	380.47
	24-Jul-2001	420.20	39.75	380.45
	24-Oct-2001	420.20	39.14	381.06
	22-Jan-2002	420.20	39.14	381.06
MW-11A	9-Sep-1999	421.92	40.21	381.71
	15-Sep-1999	421.92	40.51	381.41
	21-Sep-1999	421.92	40.65	381.27
	22-Sep-1999	421.92	40.66	381.26
	23-Sep-1999	421.92	40.66	381.26
	29-Sep-1999	421.92	40.72	381.20
	30-Sep-1999	421.92	40.76	381.16
	5-Oct-1999	421.92	40.84	381.08
	12-Oct-1999	421.92	40.40	381.52

Notes:

- 1) MSL = Above mean sea level.
- 2) BTOC = Below top of casing.

MEW Site File
Break7_016353

TABLE2
GROUNDWATER ELEVATION DATA
Missouri Electric Works, Cape Girardeau

WellID	Date Monitored	Top of Casing Elevation (feet MSL)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet MSL)
MW-11A (Continued)	13-Oct-1999	421.92	40.42	381.50
	15-Oct-1999	421.92	40.32	381.60
	19-Oct-1999	421.92	40.25	381.67
	3-Nov-1999	421.92	40.65	381.27
	19-Nov-1999	421.92	43.86	378.06
	23-Nov-1999	421.92	43.94	377.98
	1-Dec-1999	421.92	44.03	377.89
	13-Dec-1999	421.92	43.13	378.79
	17-Dec-1999	421.92	42.32	379.60
	20-Dec-1999	421.92	42.21	379.71
	4-Jan-2000	421.92	42.25	379.67
	6-Jan-2000	421.92	42.50	379.42
	13-Jan-2000	421.92	41.87	380.05
	17-Jan-2000	421.92	41.95	379.97
	24-Jan-2000	421.92	42.20	379.72
	2-Feb-2000	421.92	42.60	379.32
	10-Feb-2000	421.92	42.89	379.03
	6-Apr-2000	421.92	40.64	381.28
	21-Apr-2000	421.92	41.59	380.33
	25-Apr-2000	421.92	41.75	380.17
	26-Apr-2000	421.92	41.81	380.11
	27-Apr-2000	421.92	41.81	380.11
	1-May-2000	421.92	41.84	380.08
	4-May-2000	421.92	41.96	379.96
	9-May-2000	421.92	41.78	380.14
	10-May-2000	421.92	41.76	380.16
	11-May-2000	421.92	41.75	380.17
	19-May-2000	421.92	41.91	380.01
	2-Jun-2000	421.92	41.95	379.97
	19-Jun-2000	421.92	42.35	379.57
	22-Jun-2000	421.92	41.86	380.06
	14-Jul-2000	421.92	42.63	379.29
	26-Sep-2000	421.92	43.44	378.48
	23-Apr-2001	421.92	39.28	382.64
	27-Jul-2001	421.92	26.83	395.09
	24-Oct-2001	421.92	39.75	382.17
	22-Jan-2002	421.92	38.41	383.51

Notes:

- 1) MSL= Above means sea level.
- 2) BTOC = Below top of casing.

MEW Site File
Break7_016354

TABLE 3
GROUNDWATER ANALYTICAL RESULTS-Inorganic Compounds
Missouri Electric Works, Cape Girardeau

Analyte	Method	Well. D.	MW-3	MW-4	MW-5	MW-6A
		Date Sampled	20-Jun-2000	26-Sep-2000	20-Jun-2000	19-Jun-2000
Sodium	SW6010B	mg/L	16.7	51.6	27.1	34.8
Potassium	SW6010B	mg/L	1.40	5.82	3.86	2.32
Calcium	SW6010B	mg/L	91.4	227	232	172
Magnesium	SW6010B	mg/L	8.20	37.1	13.9	13.5
Iron	SW6010B	mg/L	4.81	2.66	54.9	9.51
Manganese	SW6010B	mg/L	1.78	0.144	1.76	0.437
Fluoride	E340.2	mg/L	0.200	0.480	<0.200	0.260
Chloride	E325.2	mg/L	11.7	106.0	11.1	6.27
Sulfate	E375.4	mg/L	13.7	357.0	26.5	32.2
Sulfide	E376.2	mg/L	<1.00	<1.00	<1.00	<1.00
Alkalinity as CaCO₃	E310.1	mg/L	281	251	299	480
Dissolved Oxygen	E360.1	mg/L	5.87	9.57*	7.23	5.90
Specific Conductance	E120.1	μmhos/cm	558	1510	564	689
pH	E120.1	pH units	7.70	6.95*	7.82	7.05
Hardness (Ca+Mg g)	M2340B	mg/L	262	720	637	484
TDS	E160.1	mg/L	343	1170	359	435
TSS	E160.2	mg/L	140	92.0	678	596
Total Residue	E160.3	mg/L	500	<5.00	1,100	1,100
Nitrite	E353.2	mg/L	<0.05	0.234	<0.05	<0.05
Nitrate	E353.2	mg/L	<0.05	9.61	<0.05	<0.05
Total Phosphorous	E365.1	mg/L	<0.05	0.161	0.480	0.129
COD	E410.4	mg/L	34.7	30.6	99.0	<10.0

Notes:

- 1) TDS = Total dissolved solids.
- 2) TSS = Total suspended solids.
- 3) COD = Chemical oxygen demand.
- 4)* = Analyzed after established holding time due to shipping delay.
- 5) mg/L = milligrams per liter.
- 6) μmhos/cm = micromhos per centimeter.
- 7) Ca = calcium.
- 8) Mg = magnesium.

MEW Site File
Break7_016355

TABLE 3
GROUNDWATER ANALYTICAL RESULTS-Inorganic Compounds
Missouri Electric Works, Cape Girardeau

Analyte	Method	Well. D.	MW-7	MW-8	MW-9	MW-10	MW-11
		Date Sampled	20-Jun-2000	28-Sep-2000	19-Jun-2000	20-Jun-2000	22-Jun-2000
Sodium	SW6010B	mg/L	52.2	84.9	11.3	11.4	19.1
Potassium	SW6010B	mg/L	4.23	8.19	3.80	3.36	7.12
Calcium	SW6010B	mg/L	163	367	115	126	20.7
Magnesium	SW6010B	mg/L	23.9	58.4	8.58	6.12	2.50
Iron	SW6010B	mg/L	10.8	153	58.6	4.66	9.30
Manganese	SW6010B	mg/L	0.690	3.72	0.992	0.114	0.179
Fluoride	E340.2	mg/L	0.280	0.220	0.240	0.220	0.490
Chloride	E325.2	mg/L	54.6	25.8	23.2	35.1	15.9
Sulfate	E375.4	mg/L	48.8	49.6	12.6	24.7	14.5
Sulfide	E376.2	mg/L	<1.00	10.4	<1.00	<1.00	<1.00
Alkalinity as CaCO ₃	E310.1	mg/L	395	914	251	302	64.0
Dissolved Oxygen	E360.1	mg/L	2.72	8.18	7.80	3.44	8.25
Specific Conductance	E120.1	μmhos/cm	1090	1150	489	699	174
pH	E120.1	pH units	7.64	7.00	7.33	7.43	9.82
Hardness (Ca+Mg g)	M2340B	mg/L	505	1130	323	340	62.1
TDS	E160.1	mg/L	670	692	356	468	137
TSS	E160.2	mg/L	836	4720	1410	115	162
Total Residue	E160.3	mg/L	1,600	<5.00	1,700	600	<5.00
Nitrite	E353.2	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate	E353.2	mg/L	1.92	0.662	<0.05	1.09	0.287
Total Phosphorous	E365.1	mg/L	<0.05	3.56	1.84	<0.05	<0.05
COD	E410.4	mg/L	13.0	38.7	<10.0	29.2	27.5

Notes:

- 1) TDS = Total dissolved solids.
- 2) TSS = Total suspended solids.
- 3) COD = Chemical oxygen demand.
- 4) * = Analyzed after established holding time due to shipping delay.
- 5) mg/L = milligrams per liter.
- 6) μmhos/cm = micromhos per centimeter.
- 7) Ca = calcium.
- 8) Mg = magnesium.

MEW Site File
Break7_016356

TABLE 3
GROUNDWATER ANALYTICAL RESULTS-Inorganic Compounds
 Missouri Electric Works, Cape Girardeau

Analyte	Method	Well. D.	MW-11 (Duplicate)	MW-11A	WSW-1
		Date Sampled	22-Jun-2000	29-Sep-2000	25-Mar-2001
Sodium	SW6010B	mg/L	14.2	9.16	12.6
Potassium	SW6010B	mg/L	9.69	18.0	<5.00
Calcium	SW6010B	mg/L	30.9	74.2	97.7
Magnesium	SW6010B	mg/L	5.64	20.4	6.48
Iron	SW6010B	mg/L	18.0	13.1	0.757
Manganese	SW6010B	mg/L	0.309	0.159	0.040
Fluoride	E340.2	mg/L	0.330	0.340	<0.200
Chloride	E325.2	mg/L	12.9	3.98	32.3
Sulfate	E375.4	mg/L	10.0	14.5	16.5
Sulfide	E376.2	mg/L	<1.00	<1.00	<1.00
Alkalinity as CaCO₃	E310.1	mg/L	76.0	268	269
Dissolved Oxygen	E360.1	mg/L	8.03	8.32	3.68
Specific Conductance	E120.1	μmhos/cm	138	310	608
pH	E120.1	pH units	9.97	8.48	7.11
Hardness (Ca+Mg g)	M2340B	mg/L	100	269	271
TDS	E160.1	mg/L	126	224	380
TSS	E160.2	mg/L	404	129	13.0
Total Residue	E160.3	mg/L	<5.00	<5.00	421
Nitrite	E353.2	mg/L	<0.05	<0.05	<0.05
Nitrate	E353.2	mg/L	0.136	<0.0500	1.24
Total Phosphorous	E365.1	mg/L	0.176	0.081	0.0985
COD	E410.4	mg/L	28.8	29.1	<10.0

Notes:

- 1)TDS= Total dissolved solids.
- 2) TSS =Total suspended solids.
- 3) COD= Chemical oxygen demand.
- 4)= Analyzed after established holding time due to shipping delay.
- 5)mg/L= milligrams per liter.

MEW Site File
Break7_016357

TABLE4
GROUNDWATER ANALYTICAL RESULTS-Biological Analysis
Missouri Electric Works, Cape Girardeau

Well ID	Date Sampled	Heterotrophic Plate Count SM9215B (cfu/L)	BOD E405.1 (mg/L)
MW-3	20-Jun-2000	4,500	10.5
MW-4	26-Sep-2000	11,000*	NA
MW-5	20-Jun-2000	3,000	28.3
MW-6A	19-Jun-2000	15,400	NA
MW-7	20-Jun-2000	3,800	5.10
MW-8	26-Sep-2000	210,000	<5.00
MW-9	19-Jun-2000	8,900	NA
MW-10	20-Jun-2000	350	7.40
MW-11	22-Jun-2000	1,056,000	<5.00
MW-11(Duplicate)	22-Jun-2000	3,096,000	9.2
MW-11A	29-Sep-2000	100,000	5.76
WSW-1	25-Apr-2001	480	<5.00

Notes:

- 1) BOD=Biochemical Oxygen Demand.
- 2)* = Analytical results established holding time less than 24 hours.
- 3) NA=Not analyzed.
- 4) cfu=Colony forming units

TABLE 5
GROUNDWATER ANALYTICAL RESULTS - Organic Compounds
 Missouri Electric Works, Cap Girardeau

WellID	Date Sampled	Analytes and PAM method							
		1,1,1-TCA 8260B (ug/L)	TCE 8260B (ug/L)	PCE 8260B (ug/L)	1,1-DCA 8260B (ug/L)	1,1-DCE 8260B (ug/L)	Benzene 8260B (ug/L)	Chloro-benzene 8260B (ug/L)	1,2,4-TCB 8270C (ug/L)
MW-3	20-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	11	710	<10
MW-3	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	5.3	510	<10
MW-3	26-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	5.6	320	<10
MW-3	24-Oct-2001	<5.0	<5.0	<0.5	<5.0	<5.0	16	1,400	<10
MW-3	23-Jan-2002	<5.0	<5.0	<0.5	<5.0	<5.0	14	1,600	<10
MW-4	26-Sep-2000	<5.0	<5.0	<5.0	5.6	<5.0	<5.0	<5.0	<10
MW-4	24-Apr-2001	<5.0	<5.0	<5.0	19	7.7	<5.0	30	41
MW-4	25-Jul-2001	<5.0	<5.0	<5.0	8.8	<5.0	<5.0	6.3	<10
MW-4	25-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	15	17
MW-4(D)	25-Oct-2001	<5.0	<5.0	<5.0	13.0	<5.0	<5.0	14	18
MW-4	23-Jan-2002	<5.0	<5.0	<5.0	15	6.4	<5.0	21	16
MW-5	20-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	21	<10
MW-5*	27-Sep-2000	NA	NA	NA	NA	<5.0	NA	NA	NA
MW-5	27-Sep-2000	NA	NA	NA	NA	<5.0	NA	NA	NA
MW-5	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	19	<10
MW-5	26-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-5	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	16	<10
MW-5	23-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	29	<10
MW-6A	19-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-6A	24-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-6A	25-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-6A	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-6A	22-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-7	20-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	40
MW-7	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	24
MW-7	26-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-7	25-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-7	23-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.6	<10
MW-8	26-Sep-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-9	19-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-9	24-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-9	24-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-9	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-9	22-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MCL	-	200	5	5	-	-	5	100	70

TABLE5
GROUNDWATER ANALYTICAL RESULTS-Organic Compounds
Missouri Electric Works, Cape Girardeau

WellID	Date Sampled	Analytes and PAM method							1,2,4-TCB (ug/L)
		1,1,1-TCA 8260B (ug/L)	TCE 8260B (ug/L)	PCE 8260B (ug/L)	1,1-DCA 8260B (ug/L)	1,1-DCE 8260B (ug/L)	Benzene 8260B (ug/L)	Chloro-benzene 8260B (ug/L)	
MW-10	20-Jun-2000	7.9	<5.0	<5.0	6.2	<5.0	<5.0	<5.0	23
MW-10	24-Apr-2001	8.0	7.2	<5.0	16	7.0	<5.0	<5.0	31
MW-10	24-Jul-2001	5.6	7.9	<5.0	<5.0	<5.0	<5.0	<5.0	31
MW-10	25-Oct-2001	6.6	5.9	<5.0	22	6.8	<5.0	<5.0	28
MW-10	22-Jan-2002	6.4	9.3	<5.0	17	7.8	<5.0	<5.0	18
MW-11	22-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	24	<10
MW-11(D)	22-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	68	<10
MW-11 *	27-Sep-2000	NA	NA	NA	NA	<5.0	NA	NA	NA
MW-11	27-Sep-2000	NA	NA	NA	NA	<5.0	NA	NA	NA
MW-11(D)	27-Sep-2000	NA	NA	NA	NA	<5.0	NA	NA	NA
MW-11	26-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.9	<10
MW-11(D)	26-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.2	<10
MW-11	25-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.2	<10
MW-11(D)	25-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.6	<10
MW-11	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.7	<10
MW-11	23-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<10
MW-11(D)	23-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<10
MW-11A	22-Jun-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	19	6.3
MW-11A*	27-Sep-2000	NA	NA	NA	NA	NA	NA	NA	NA
MW-11A	29-Sep-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-11A	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-11A	26-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-11A	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MW-11A	24-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
WSW-1	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
WSW-1	24-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
WSW-1	23-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
WSW-1	23-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
MCL	-	200	5	5	-	-	5	100	70

TABLE5
GROUNDWATER AND LYTICAL RESULTS TS-Organic Compounds
Missouri State Water Works, Cape Girardeau

WellID	Date Sampled	Analytes and PAM method					
		1,3-DCB 8270C (μ g/L)	1,4-DCB 8270C (μ g/L)	Bis(2-ethylhexyl) phthalate 8270C (μ g/L)	Phenol 8270C (μ g/L)	PCB (Aroclor 1260) 8082(unfiltered) (μ g/L)	PCB (Aroclor 1260) 8082(filtered) (μ g/L)
MW-3	20-Jun-2000	15	37	21	<10	<1.0	<2.0
MW-3	25-Apr-2001	<10	25	<10	<10	4.7	<0.20
MW-3	26-Jul-2001	<10	16	<10	<10	1.1	<0.50
MW-3	24-Oct-2001	<10	17	<10	<10	<0.50	NA
MW-3	24-Oct-2001	<10	12	18	<10	1.2	<0.50
MW-4	26-Sep-2000	<10	<10	<10	<10	<1.0	<1.0
MW-4	24-Apr-2001	13	14	<10	<10	<0.20	NA
MW-4	25-Jul-2001	<10	<10	<10	<10	<0.50	NA
MW-4	25-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-4(D)	25-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-4(D)	25-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-5	20-Jun-2000	<10	<10	<10	<10	68	<2.0
MW-5*	27-Sep-2000	NA	NA	NA	<10	6.6	<1.0
MW-5	27-Sep-2000	NA	NA	NA	<10	80	<1.0
MW-5	25-Apr-2001	<10	<10	<10	<10	85	<0.20
MW-5	26-Jul-2001	<10	<10	<10	<10	11	<0.50
MW-5	24-Oct-2001	<10	<10	<10	<10	5	<0.50
MW-5	24-Oct-2001	<10	<10	<10	<10	13	<0.50
MW-6A	19-Jun-2000	<10	<10	<10	<10	<1.0	<1.0
MW-6A	24-Apr-2001	<10	<10	<10	<10	<0.20	NA
MW-6A	25-Jul-2001	<10	<10	<10	<10	<0.50	NA
MW-6A	24-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-6A	24-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-7	20-Jun-2000	<10	<10	<10	<10	<1.0	<2.0
MW-7	25-Apr-2001	<10	<10	<10	<10	<0.20	NA
MW-7	26-Jul-2001	<10	<10	<10	<10	<0.50	NA
MW-7	25-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-7	25-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-8	26-Sep-2000	<10	<10	<10	<10	<1.0	<1.0
MW-9	19-Jun-2000	<10	<10	<10	<10	<1.0	<1.0
MW-9	24-Apr-2001	<10	<10	<10	<10	<0.20	NA
MW-9	24-Jul-2001	<10	<10	<10	<10	<0.50	NA
MW-9	24-Oct-2001	<10	<10	<10	<10	<0.50	NA
MW-9	24-Oct-2001	<10	<10	<10	<10	<0.50	NA
MCL	-	-	750	-	-	0.5	-

TABLE5
GROUNDWATER ANALYTICAL RESULTS - Organic Compounds
 Missouri Electric Works, Cape Girardeau

WellID	Date Sampled	Analytes and PAM method					
		1,3-DCB 8270C (ug/L)	1,4-DCB 8270C (ug/L)	Bis(2-ethylhexyl) phthalate 8270C (ug/L)	Phenol 8270C (ug/L)	PCB (Aroclor 1260) 8082(unfiltered) (ug/L)	PCB (Aroclor 1260) 8082(filtered) (ug/L)
MW-10	20-Jun-2000	<10	<10	16	<10	<1.0	<2.0
MW-10	24-Apr-2001	<10	<10	<10	<10	<0.20	NA
MW-10	24-Jul-2001	<10	<10	<10	<10	<0.50	NA
MW-10	25-Oct-2001	<10	<10	14	<11	<0.50	NA
MW-10	25-Oct-2001	<10	<10	<10	<11	<0.50	NA
MW-11	22-Jun-2000	17	32	<10	<10	110	4.5
MW-11(D)	22-Jun-2000	16	30	<10	<10	25	2.0
MW-11 *	27-Sep-2000	NA	NA	NA	<10	6.2	2.1
MW-11	27-Sep-2000	NA	NA	NA	<10	20	4.5
MW-11(D)	27-Sep-2000	NA	NA	NA	<10	18	2.0
MW-11	26-Apr-2001	<10	<10	<10	<10	14	<0.20
MW-11(D)	26-Apr-2001	<10	<10	<10	<10	12	<0.20
MW-11	25-Jul-2001	<10	<10	<10	<10	3.5	<0.50
MW-11(D)	25-Jul-2001	<10	<10	<10	<10	3.4	<0.50
MW-11	24-Oct-2001	<10	<10	<10	<10	0.9	<0.5
MW-11	24-Oct-2001	<10	<10	<10	<10	1.2	<0.5
MW-11(D)	24-Oct-2001	<10	<10	<10	<10	1.1	<0.5
MW-11A	22-Jun-2000	<10	<10	<10	<10	<1.4	<1.0
MW-11A*	27-Sep-2000	NA	NA	NA	<10	<1.0	<1.0
MW-11A	29-Sep-2000	<10	<10	<10	23	<1.0	<1.0
MW-11A	25-Apr-2001	<10	<10	11	<10	3.0	<0.40
MW-11A	26-Jul-2001	<10	<10	<10	<10	<0.50	NA
MW-11A	24-Oct-2001	<10	<10	<10	<10	1.8	<0.5
MW-11A	24-Oct-2001	<10	<10	19	<10	1.4	<0.5
WSW-1	25-Apr-2001	<10	<10	<10	<10	<0.20	NA
WSW-1	24-Jul-2001	<10	<10	<10	<10	<0.25	NA
WSW-1	23-Oct-2001	<10	<10	<10	<10	<0.50	NA
WSW-1	23-Oct-2001	<10	<10	<10	<10	<0.50	NA
MCL	-	-	750	-	-	0.5	-

Notes:

- 1)TCA = Trichloroethane.
- 2)TCE = Trichloroethene.
- 3)PCE = Tetrachloroethene.
- 4)DCA = Dichloroethane.
- 5)TCB = Trichlorobenzene.
- 6)DCB = Dichlorobenzene.
- 7)DCE = Dichloroethene.
- 8)NA = Not analyzed.
- 9)MCL = Maximum Contaminant Level (in mg/L).
- 10)=No MCL reported.
- 11)=Duplicate sample.
- 12)=Pre-purge sample.
- 13)ug/L = micrograms per liter.
- 14)The EPA record of decision (ROD) (EPA /ROD/R07-90/038) indicates site cleanup goals for various substances at the site and MCLs except for trichlorobenzene (20 ug/L).

MEW Site File
Break7_016362

TABLE 6
GROUNDWATER ANALYTICAL RESULTS-Isotopic Analysis
Missouri Electric Works, Cape Girardeau

Well ID	Date Sampled	Screened Interval (feet BGS)	Total Depth (Approximate) (feet BGS)	Tritium Units (TU)	eTU	dD (‰)	d ¹⁸ O (‰)
WSW-1	23-Oct-2001	Not Screened	150	5.75	0.19	-37.50	-6.10
MW-3	24-Oct-2001	NA	60	4.62	0.15	-36.00	-6.50
MW-5	24-Oct-2001	NA	42	4.48	0.15	-37.00	-6.40
MW-11	24-Oct-2001	115 to 120	120	2.22	0.09	-35.00	-6.30
MW-11A	25-Oct-2001	NA	405	0.52	0.09	-31.50	-6.00

Notes:

- 1) Tritium Units are calculated from the date of sample collection.
- Age = Corrections and conversions remain constant if life of 12.43 years.
- 1 TU = $3.19 \times 10^{-3} \text{ Ci/KgH}_2\text{O} \times 10^9 \text{ Bq}/\text{KgH}_2\text{O}$ ($\text{Bq} = \text{disintegrations/sec}$).
- 2) eTU - Standard error (one standard deviation).
- 3) dD and d¹⁸O are relative to Standard Mean Ocean Water (SMOW).
- 4) ‰ - per thousand.

TABLE7
GROUNDWATER ANALYTICAL RESULTS-QA/QCR results
Missouri Ele ctric Works, Cape Girardeau

Sample ID.	Date Sampled	1,1,1-TCA	1,1-DCA	Acetone	Benzene	Chloro-benzene	Methylene Chloride
		8260B (ug/L)	8260B (ug/L)	8260B (ug/L)	8260B (ug/L)	8260B (ug/L)	8260B (ug/L)
EquipmentB tank	22-Jun-2000	<5.0	<5.0	64	<5.0	<5.0	<5.0
FieldB tank	22-Jun-2000	<5.0	<5.0	75	<5.0	<5.0	<5.0
TripB tank	22-Jun-2000	<5.0	<5.0	79	<5.0	<5.0	<5.0
TripB tank	26-Sep-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	27-Sep-2000	NA	NA	NA	NA	NA	NA
FieldB tank	27-Sep-2000	NA	NA	NA	NA	NA	NA
EquipmentB tank	28-Sep-2000	<5.0	<5.0	<5.0	<5.0	<5.0	37,000
TripB tank	29-Sep-2000	NA	NA	NA	NA	NA	NA
EquipmentB tank	29-Sep-2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	24-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EquipmentB tank	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
FieldB tank	25-Apr-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EquipmentB tank	24-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	24-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	25-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	25-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	26-Jul-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EquipmentB tank	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
FieldB tank	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	24-Oct-2001	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	23-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EquipmentB tank	25-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
FieldB tank	24-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TripB tank	25-Jan-2002	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Notes:

- 1)TCA = Trichloroethane.
- 2)D CA= 1,1-Dichloroethane.
- 3) TCB = Trichlorobenzene.
- 4)DCB = Dichlorobenzene.
- 5) NA =Not analyzed.

TABLE7
GROUNDWATER ANALYTICAL RESULTS-QA/QCR results
MissouriEle ctricWorks, CapeGi rardeau

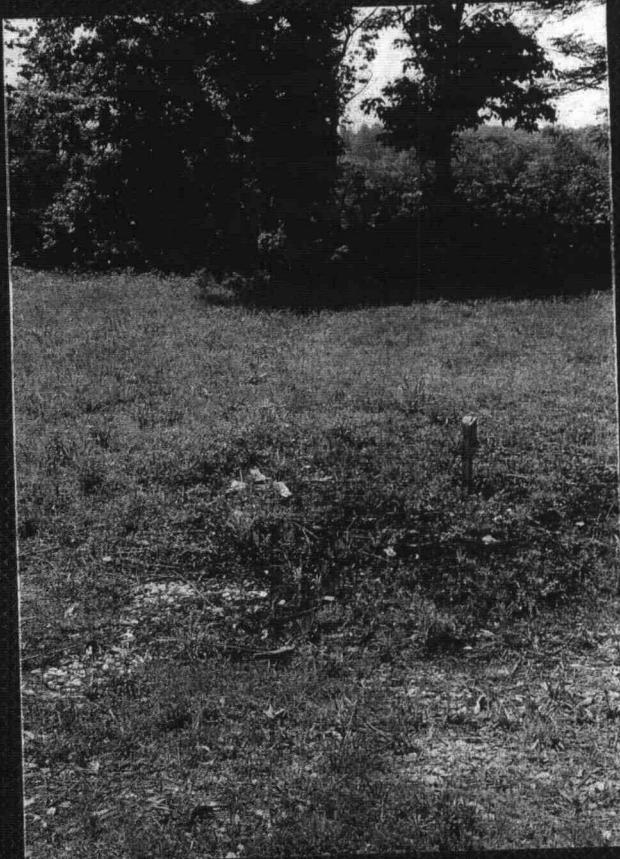
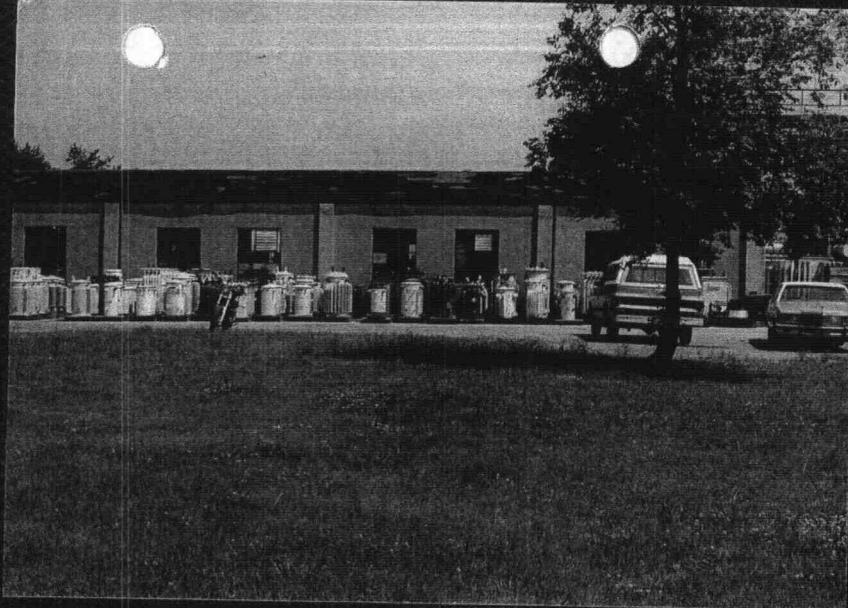
SampleID.	Date Sampled	1,2,4-TCB	1,3-DCB	1,4-DCB	Bis(2-ethylhexyl) phthalate	PCB (Aroclor1260)
		8270C (ug/L)	8270C (ug/L)	8270C (ug/L)	8270C (ug/L)	8082(unf itered) (ug/L)
EquipmentB lank	22-Jun-2000	<10	<10	<10	<10	<1.0
FieldB lank	22-Jun-2000	<10	<10	<10	<10	<1.0
TripB lank	22-Jun-2000	<10	<10	<10	<10	<1.0
TripB lank	26-Sep-2000	<10	<10	<10	<10	<1.0
TripB lank	27-Sep-2000	NA	NA	NA	NA	<1.0
FieldB lank	27-Sep-2000	NA	NA	NA	NA	<1.0
EquipmentB lank	28-Sep-2000	<10	<10	<10	<10	<1.0
TripB lank	29-Sep-2000	NA	NA	NA	NA	<1.0
EquipmentB lank	29-Sep-2000	<10	<10	<10	<10	<1.0
TripB lank	24-Apr-2001	<10	<10	<10	<10	<0.20
EquipmentB lank	25-Apr-2001	<10	<10	<10	<10	<0.20
TripB lank	25-Apr-2001	<10	<10	<10	<10	<0.20
FieldB lank	25-Apr-2001	<10	<10	<10	<10	<0.20
EquipmentB lank	24-Jul-2001	<10	<10	<10	<10	NA
TripB lank	24-Jul-2001	<10	<10	<10	<10	NA
TripB lank	25-Jul-2001	<10	<10	<10	<10	NA
TripB lank	25-Jul-2001	<10	<10	<10	<10	NA
TripB lank	26-Jul-2001	<10	<10	<10	<10	NA
EquipmentB lank	24-Oct-2001	<10	<10	<10	<10	NA
FieldB lank	24-Oct-2001	<10	<10	<10	<10	NA
TripB lank	24-Oct-2001	<10	<10	<10	<10	NA
TripB lank	23-Jan-2002	<10	<10	<10	<10	NA
EquipmentB lank	25-Jan-2002	<10	<10	<10	<10	NA
FieldB lank	24-Jan-2002	<10	<10	<10	<10	NA
TripB lank	25-Jan-2002	<10	<10	<10	<10	NA

Notes:

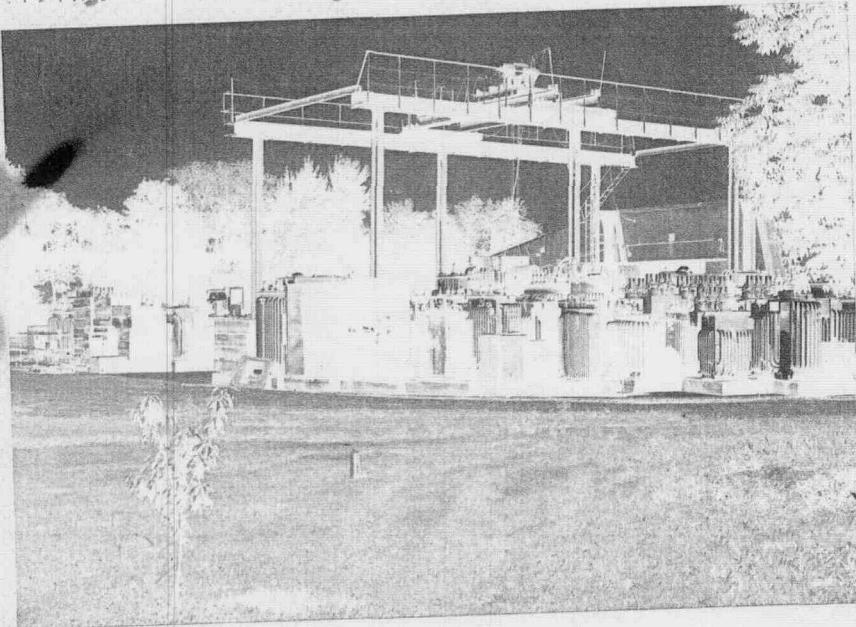
- 1)TCA = Trichloroethane.
- 2)D CA= 1,1-Dichloroethane.
- 3) TCB = Trichlorobenzene.
- 4)D CB = Dichlorobenzene.
- 5) NA =Not analyzed.



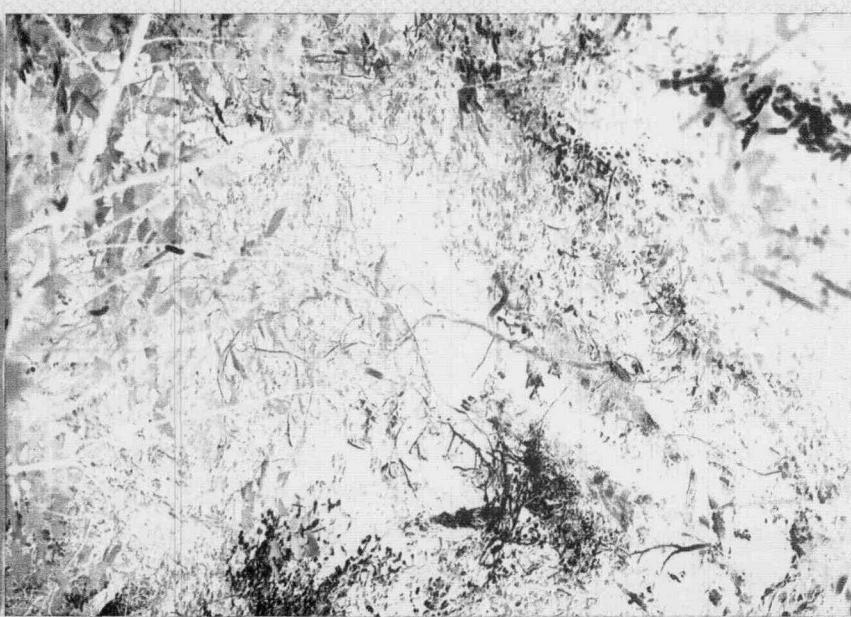
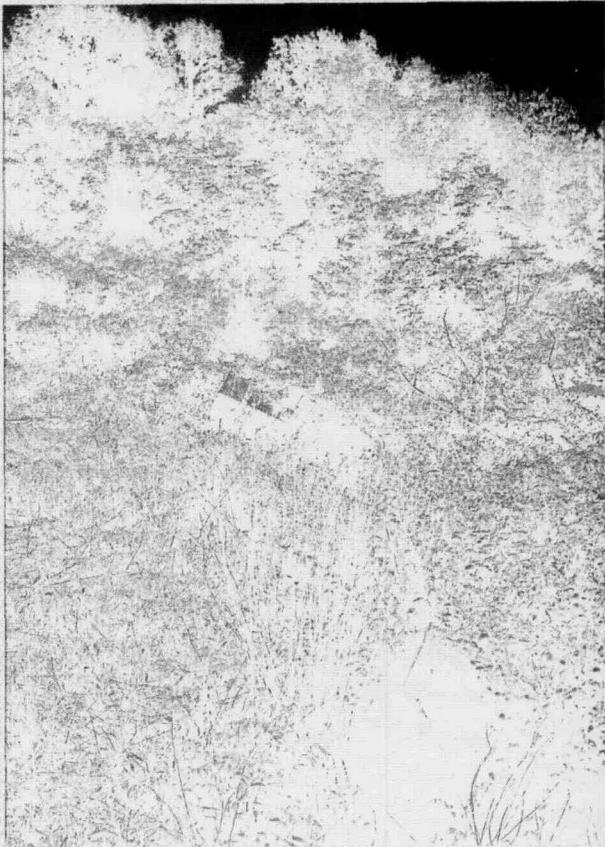
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Break7_016366



MEW Site File
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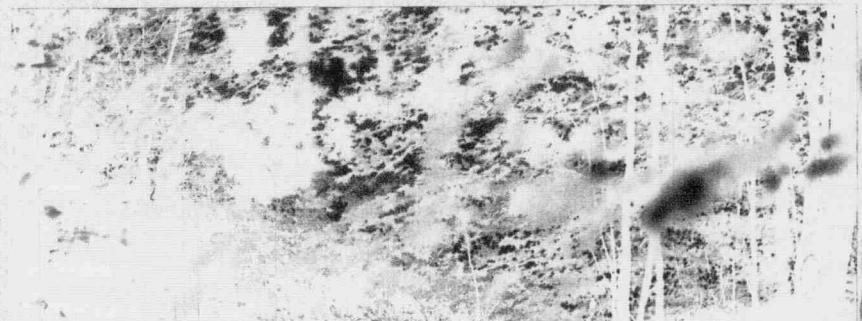
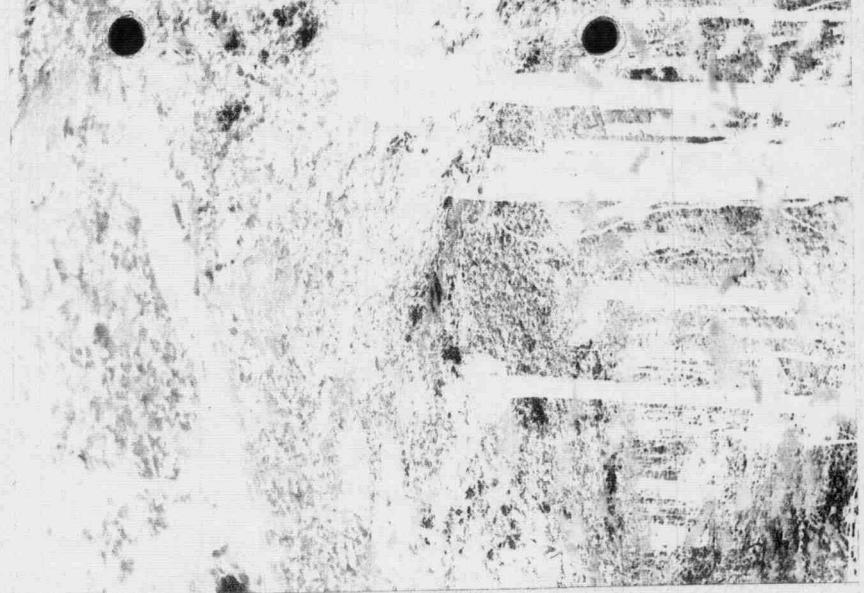


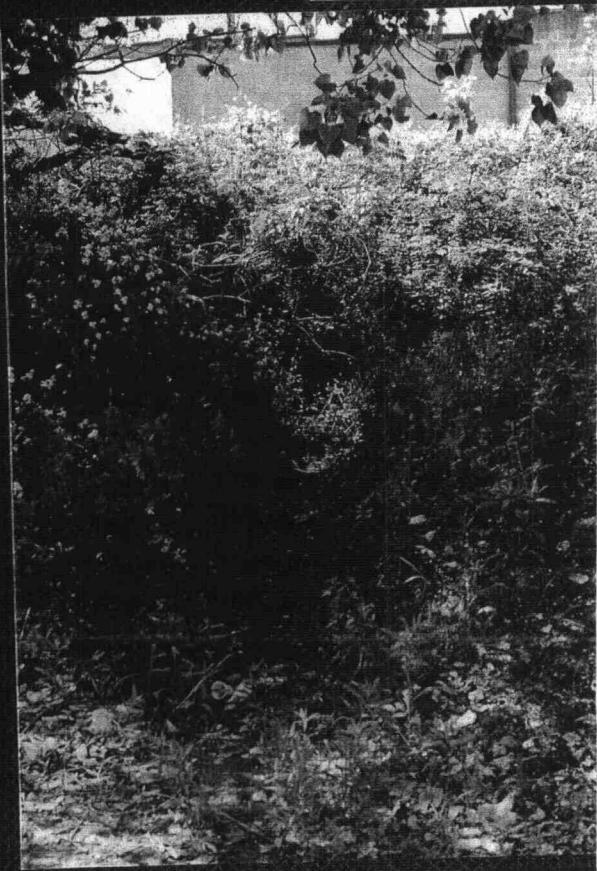
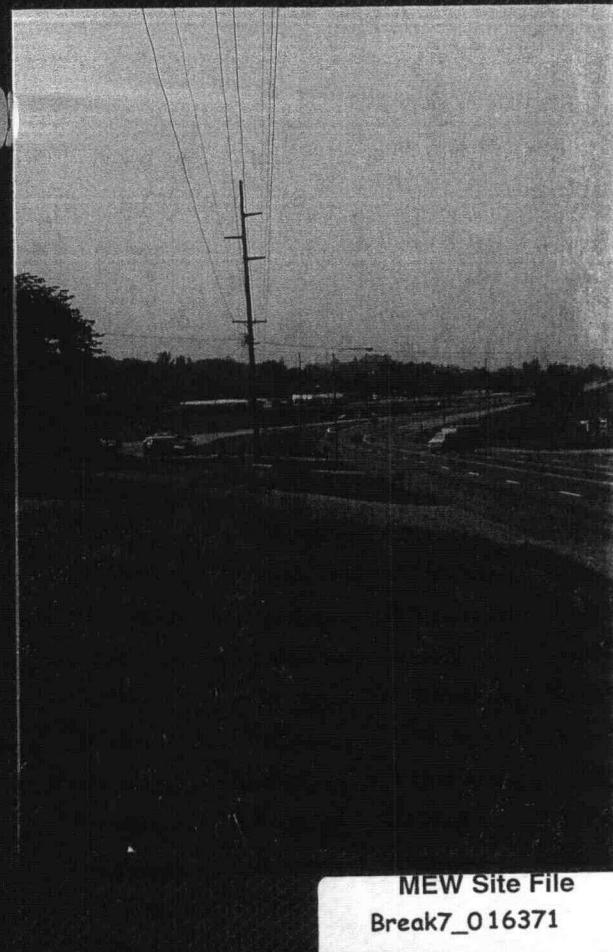
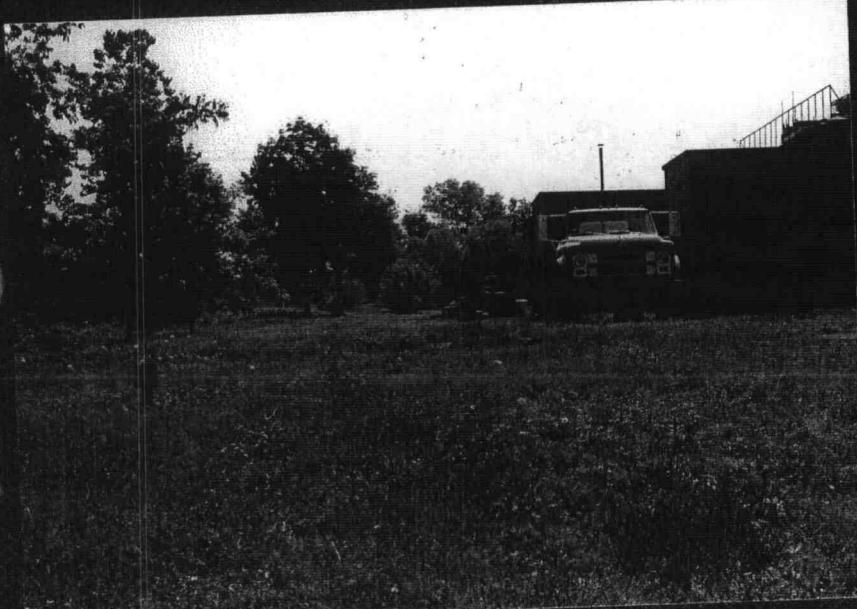
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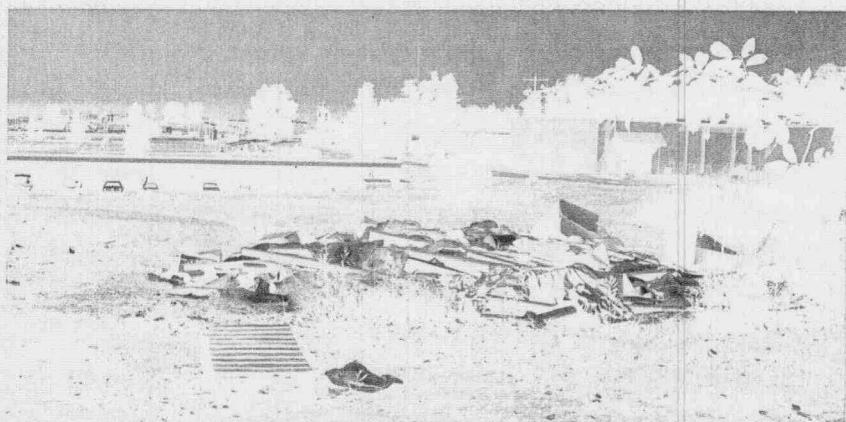
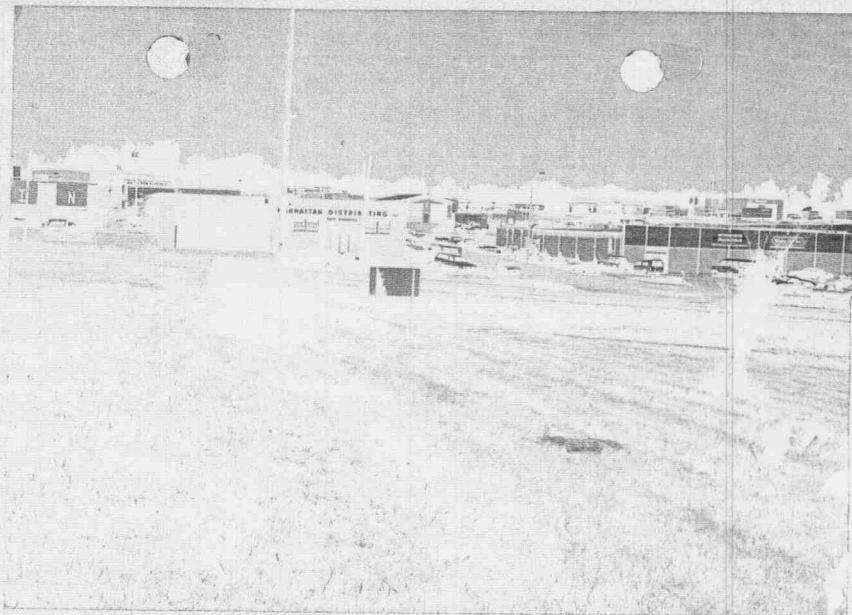
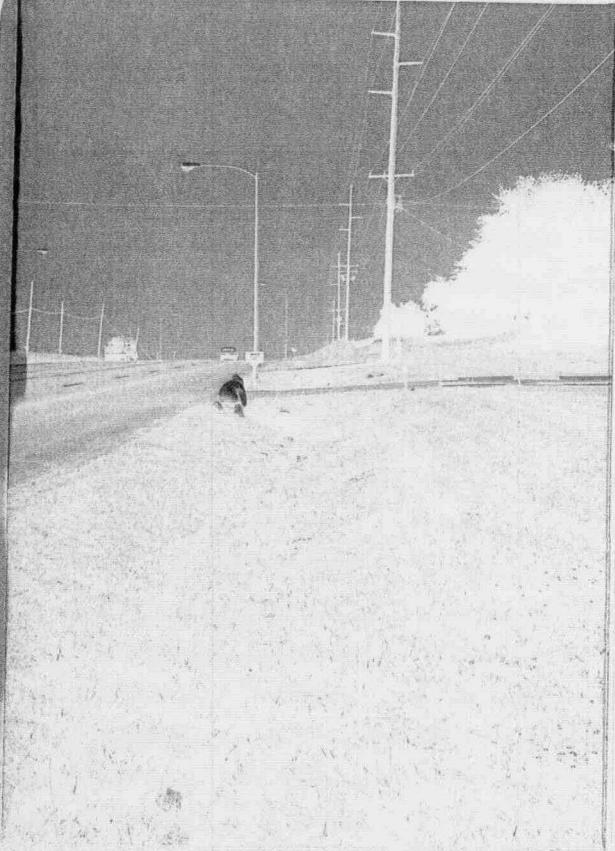
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